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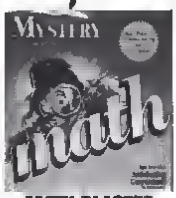
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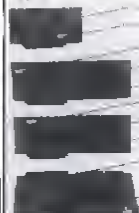
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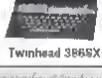
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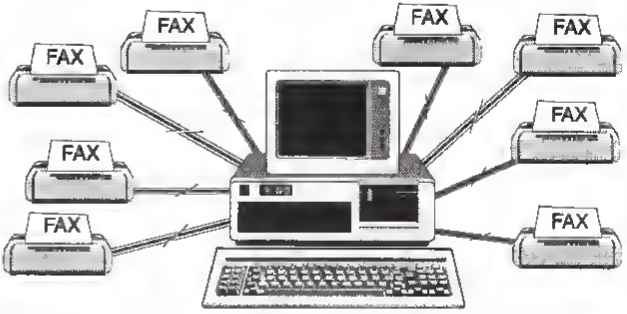
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From the Editor



Response to our reader survey has been phenomenal. We have received a large stack of responses in the mail every day since the last issue hit the streets. It's good to see that so many of you like *The Computer Paper* "just the way it is." But we also have been carefully noting the comments of those who wrote in with suggestions of things you'd like to see. For example—a common theme was "More feature articles." Interestingly last issue we made a first step toward that goal, even *before* the survey went out.

As you probably know, *The Computer Paper* is funded primarily by our advertisers. This necessarily limits the size of the publication to a number of pages determined by the number of paid ads. How could we bring readers more feature articles?

By reducing—slightly—the size of the type beginning last issue, we found that we could considerably increase our coverage of each topic, hopefully without reducing the readability of the publication significantly. Encouragingly, we did not hear any complaints from readers about the type size. If you have any comments, let us know.

Down to Business

Comdex/Fall '91, MacWorld Canada and the Seybold Publishing Conference as well as the signing of a landmark agreement between Apple and IBM all happened since last issue, and are reported here. Check out the show reports to see what trends are so rapidly reshaping the industry.

Workstations promise—and deliver—dramatically superior performance to the current generation of PCs. Although more expensive right now, it is a predictable trend in the computer biz that these technologies will filter down to the mass market over the next few years, bringing superior productivity and its benefits to all of us in the process. William Barr leads the feature parade with stories on key developments in the world of UNIX.

Our other feature articles also reflect another trend requested in the Reader Survey. Many of you said "more *how-to* articles," and our hard drive, virus-protection and graphics features all contain info we think will be useful for beginners and power-users alike.

By the way, if you haven't yet entered the contest to win the OkiLaser printer, there's still time—look in the Oct. '91 issue for the entry form.

Enjoy the issue.

Kirtan Singh Khalsa—Publisher/Editor

Masthead

Publisher / Editor
Kirtan Singh Khalsa

Assistant Editor
Graeme Bennett

Contributing Writers
William Barr, Graeme Bennett, Thomas Fee, Theresa Guay, Steve McIlwain, Scott McNealy, Cathalynn Labonté-Smith, Gordon Young. *Newsflytes* Canadian Editor: Grant Buckler

Proofreader
Neall Calvert

Cover Art
"SUNshine" by Graeme Bennett

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John Oliver (604) 733-5596

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Han Singh Khalsa (604) 733-5596

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LETTERS TO THE EDITOR

Old Salesman's Stories

Dear Sir

I read Mr Bennett's article on Dirk Punchers in your September issue and do not agree with its content.

3.5" Disks

It has been known since 1987 that certain brands of 3.5" disks used the same magnetic matter for DD and HD disks. These disks could be converted by drilling a hole in the proper location. Some brands helped by having the location already marked. I have program disks of this type running since 1988. The procedure does not require an expensive disk puncher—a sharp drill bit and a slow-speed drill is necessary. I consider this procedure obsolete as HD disks are available at very reasonable prices.

5 1/4"

Here we have a repetition of the old salesman's story about the bristles sweeping in the wrong direction. The sweeping matter consists of tiny parallelogram ridges with depressions. It is arranged in such a way to sweep in both directions. A sample of an old PERCOM disk is included.

With exception to very early times, in my opinion, the only differences between SSSD, SSDD, DSSD and DSDD disk were the label and the price. When the manufacturers started to distribute "bonus" disks, they used only one type of blank disk which covered all four types. I still have working Radio Shack SSSD disks now formatted as doubled-sided floppies for an AT 560K drive.

The same magnetic matter games appear to start again with the increased use of tape drives.

Horst Rother
Vancouver, B.C.

Graeme Bennett replies: While your comments are accurate with regard to certain brands it remains a fact that not all high density (HD) disks are composed of the same magnetic media as lower-density double-density (DD) disks. In fact, several name brands of HD disks have coercivity ratings of 720 oersteds, as mentioned in my article. The laws of physics dictate that these higher-rated disks can resist demagnetization, and hence long-term data corruption, more effectively than any disks rated at 600 oersteds. The same caveat applies to risking backups to audio DAT instead of data-grade tape.

Even if you do risk your data to bulk disks, consider that drilling holes in your 3.5" disks may cause particles of plastic to fall inside the disk housing, where they can scratch the disk surface or worn your drive's heads. That said, I confess that I have been using the Disk Wizard to help up my DSDD disks for months now, and have had no data loss problems (so far) and only two disks that wouldn't format as HD. I am, however, very careful to remove any excess plastic shreds before use, and I don't recommend it for long-term storage of important data, for the reason mentioned earlier.

As for the "old salesman's story," I probably could have used your term, "parallelogram ridges" instead of my terms "fuzzy material" and "tiny bristles," to describe the sweeping surface inside disk jackets, but I nevertheless maintain that if the direction of a disk's rotation is reversed, oxide from the media, dust and other material previously "swept" can be dislodged.

An old salesman once told me how the different grades of SSSD, SSDD, DSSD and DSDD disks were rated. After the machines apply the, uh, magnetizable surface to the rolls of media carrier (i.e., mylar), the companies do spot tests to check the integrity and density of the magnetic media. If

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LETTERS

both sides check out as double density, that batch is deemed DSDD. If one side fails, it's SSDD. If that side fails the DD test, they test it as Single Density. If a certain of this big sheet of disk material fails a whole bunch of tests (I can't imagine they bother much with single density anymore), they don't put their "brand name" on it, and it gets turned into bulk disks. According to the old salesman, bulk disks are made from brand name disk media that didn't cut it. I don't know if it's true, but it's a pretty good story. By the way, thanks for the Percom disk jacket. That fuzzy material makes a great absorbent coaster.

Enough is Enough

I am a former Vancouver resident who has been 9 months without *The Computer Paper* and have finally decided Enough is Enough! Please send me a year's subscription to help make up for Cincinnati's abysmal lack of such a useful publication. My request for an upcoming article is "The Development of a Computer Consultant, or How I Became Roedy Green."

Thanks!
Andy Hickman, M.Sc.
Able Computer Consulting
Cincinnati, OH

P.S. My best to Tony and Dave at AE Electronics for great computers and Alan at Paper Choice for recycled computer paper.

Atari Alternative

I was recently reading through your B.C Lower Mainland Edition, September 1991, Volume 4, No 9 issue and noticed the only article I could find designated to the ATARI line of computer devices announcing the ANDEST POCKET MODEM for the PORTFOLIO [PALMTOP PC].

Our company is recognized as one of the Lower Mainland's more informative service and support centres on the ATARI ST/STE/TT & Portfolio product line and I thought I would offer to enlighten Portfolio readers of a communications solution which we have been offering our customers which I feel is superior to that mentioned in the article.

With all serial adapters we have been providing our customers we also include XTERM1, a PD communicetions program supporting ASCII and Xmodem file transfers. Couple that with the Practical Peripherals Pocket Modem Tm. This modem is truly a pocket modem with dimensions of 3" X 2.25" X 1", supporting the full HAYES command set, and uses the standard RJ11 modular phone jack cord. A DB9 to DB25 adaptor is included with the unit.

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Line powered, under normal operation does not require batteries or an AC power supply
5 Year Parts and Labour Warranty

The package offered in the UK, Portfolio and 1200 baud modem was listed - 400 UKP which is roughly $800.00 CDN.

Our system:

Portfolio, 2400 Pocket Modem, Serial interface @ $853.99 CDN.

Dare to compare.

Quay Computers
New Westminster, B.C.

Thanks for the info.

Continued on page 8

LATE BREAKING NEWS

Canadian Computer Media On Disk

TORONTO, ONTARIO, OCT 23 (NB)— If you want to know how to reach Newsbytes' Canadian bureau, as well as the rest of the Canadian computer-industry media, consultants, computer user groups, and other contacts, MediaBrief might be the answer. It is a database of promotional contacts for the Canadian high- technology industry, built on Richmond Technologies & Software's The Maximizer contact management software.

MediaBrief is the second custom version of The Maximizer announced this fall. Recently, Vancouver-based Channel Strategies has already announced a version tailored for computer retailers.

MediaBrief is designed for marketing and public relations people working for computer hardware and software firms or for public relations agencies representing such companies. David Fieldman, vice-president of MediaBrief, told Newsbytes it will be marketed in Canada and to buyers in the United States who need to reach the Canadian media. There are no plans for an American version, he said, since comparable products already exist there.

Fieldman and Gordon Graham, a Montreal-based computer industry journalist, have compiled the MediaBrief database over the past two years. It contains names, addresses, telephone numbers, and detailed notes on more than 1,000 contacts, the company said.

The software will be available November 1 for C$695. An on-disk update service will cost C$149 per year. Fieldman said there will be a single one-disk update each year, plus quarterly newsletters, and subscribers will be advised of major changes by fax.

Contact: David Fieldman, MediaBrief, 416-359-0472, fax 416 359-0474. Earl van As, Richmond Technologies & Software, 604-299-2121, fax 604-299-6743.

NewsBriefs

At press time, George Slade reports that Centax has been bought by Softkey. Cameron Peters is remaining as president.

World Series Computer Graphics by Ex-Vancouverite

Ellie O Day reports that the "Inside Pitch" computer graphics shown during the recent World Series games (that's baseball, in case you've been living in a cave) are based on technology created by ex-Vancouverite Michael Harris. Called SuperVision, the system can find and track fast moving objects in three-dimensional space and provides an instant graphic reproduction of the action. Information such as the speed and trajectory of the pitch can be shown.

Here's how it works. SuperVision uses two small stationary high-speed black and white video cameras, one each behind the third and first baselines. The two images are fed into a special effects generator, an RGB converter, an Imaging board in a 486 computer and a Silicon Graphics 310 VGX 3-D workstation. Each pitch is stored in the PC on a Clipper database.

According to the company, the system can help teach pitchers and evaluate their performances, and can be easily adapted to teams golf, cricket, and other applications.

The inventor says he developed the concept in the garage of his Irvine, California home on an Apple computer.

The inventor teamed up with his brother Brian Harris, who left a real estate practice in Vancouver, cousin Bob Harris and two others to develop and market the system. Their company, SZL Sportsight Inc. is a Canadian corporation trading on the Vancouver Stock Exchange with a wholly-owned U.S. subsidiary.

Contact: SZL Sportsight Inc. 604/682-7335 Fax 585-5844; Platinum Publicity, 604/682-1588.

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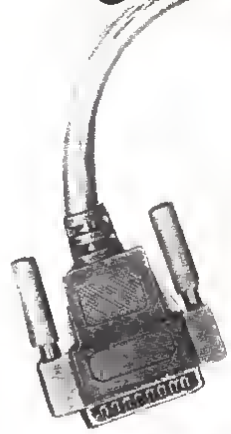
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LETTERS

Computers Cost More in Saskatchewan

Please find enclosed a cheque in the amount of $24.95 for a year's subscription to *The Computer Paper*. I would like the British Columbia Lower Mainland edition.

I picked up your paper in Vancouver in late summer, and bought a computer using your ads. I figure that I saved about one to two hundred dollars by comparing prices in Vancouver and over one thousand dollars if I had purchased the same computer in Saskatchewan.

Keep up the good work.

Yours truly,
Don Barbour

Computers & Eyesight

Further comments re the George Slade article in *The Computer Paper* ("A Tale of Two Dyslexics"—Sept. '91).

As an optometrist who works with vision and its effects on reading disabilities, I can add that there are a number of optical properties of computers that help some of these children.

Some common problems with these children are: farsightedness, convergence excess, convergence insufficiency, accommodative infacility, suppression, near point field constriction. All of these conditions and associated symptoms are reduced as the distance from the eyes to the reading material is increased. The typical child will hold reading material at 12-15 inches from his eyes while the computer is at a 50% greater distance of 20-24 inches.

Other advantages are increased print size compared to books and reduced amount of information on a page as compared to books.

In addition, some hyperactivity/agitation of children is calmed with multi-coloured or blue-grey screens.

As you have noted in the article most of the conditions I have described are not educational problems but to date they are not considered medical problems either. They are considered mostly optometric problems.

If I can be of any further assistance, please call.

Yours truly,

J.C. Thompson–OD, FAAO
Optometrist
North Vancouver B.C.

More on Dyslexia

I read with interest Mr. Slade's article entitled "A Tale of Two Dyslexics" (Sept/91). I am a Learning Assistance teacher and frequently work with children such as those you described in your article. I'm constantly looking for methodologies or materials which will help these children learn. Have you any suggestions for computer software you consider beneficial? This school district uses IBM-compatible machines.

Thanks.

Yours truly,

Joan Campbell
Telkwa, B.C.

We received an amazing amount of mail regarding George's article. It seems it have addressed a topic close to many people. Thanks to all who wrote in. In this issue, we present "The Enabled Computer", an article about computer users who have found a technological aid to their disabilities. From knowledge comes wisdom, they say.

Continued on page 9

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LETTERS

Both Sides Now

I have been a frequent reader of *The Computer Paper* since I came to B.C. two years ago and sometimes felt the need to write but never quite got myself to do it until now. The paper is really informative and usually looks at issues from a clean perspective, understandable to anyone in or out of the computer field. I think that is great.

There are two things I would like to point out, however. The first relates to an article in your October 1991 issue by Bob Loblaw and it is probably what got me to write to you. I have seen a lot of articles about Windows all talking about its great features and upcoming versions, and that is all right. But the reader particularly the non-computer one needs more than to read (again) about the great features that supposedly Windows is going to bring them. That is why I think Bob Loblaw's article is revealing. Anyone who seriously works with Windows with many applications all the time will undoubtedly encounter monsterable problems not listed among the "features" of Windows. I have used many operating systems, and I think Windows is a great improvement over MS-DOS, but to compare it to the Macintosh environment is definitely degrading the latter, as Bob correctly points out. Well done and thanks for showing the "other side."

That brings me to my next point, which is something I have seen many times in *The Computer Paper*. Some of your articles on general issues (like printers, scanners, hard disks, etc.) fail to explain to the reader that they refer to a specific kind of system, generally MS-DOS. In your October 1991 issues, the article in question is the "Monitors and Display Adapters" by Reedy Green. I think the article itself is great, very thorough and complete, but it fails to warn the reader that it is only referring to standards and monitors as they are known in the MS DOS world. Although I would always like to read about the issues—monitors, in this case—from both Mac and MS-DOS points of view, I realize this might be difficult, because some writers are just committed to one operating system. It might be a good idea to get two persons to write about the same issue, one for MS-DOS, and one for Mac, so that people read the one they care more about, and these seeking advice can compare accordingly. At the very least, writers should specify in the intro that they are going to concentrate in one operating system and that things are viewed differently from the "other side."

Thomas G. Garcia
Santiago, Dominican Republic.

Bob Loblaw replies. Thanks for the kudos. Agreed, too often, writers, like computer consultants and resellers, tell what they know, as opposed to what would be best for the job. On that note, we make an effort each issue to retain a broad view of the "big picture" out there. This issue, you'll see that it's not just PCs that get attacked by viruses; not just the big guys that sell Unix boxes. Of course, we invariably get letters from users of this-or-that computer/software/whatever, telling us we forgot about their great product, but we love receiving mail. Especially E-mail—there's no retyping necessary. The addresses and numbers are in the masthead.

Speaking of mail, we got TONS of responses to last month's questionnaire. Good luck to all who entered and thanks for the comments and suggestions. Keep 'em coming.

FUD Detector alerts OS/2 User

To the editor:

As someone who has used OS/2 exclusively for three years and benefited from its special capabilities, I am perplexed by those who argue Windows in favor of OS/2, as if Windows was a direct and full replacement for OS/2. I'm referring specifically to your Newsbytes article (Sept. 91), in which Steve Ballmer is quoted as saying, "It's important to ensure that OS/2 users migrate quickly to Windows." I can't imagine how this statement could possibly be directed to any serious OS/2 user. What I do under OS/2 has no counterpart under Windows.

Without going into lengthy technical details, let me just say that I exploit OS/2's preemptive multitasking capabilities, rich set of base inter-process communications, and fully protected environment to develop custom LAN-based client/server applications. I use a stand-alone OS/2 system to create and test a custom LAN-based solution (MS LanManager) consisting of a mix of OS/2, PM and bound (an executable that runs under OS/2 as well as DOS) processes. Without actually being connected to a LAN, I can fully emulate the LAN environment. My executables run the same whether on a workstation, server, or standalone OS/2.

I can only conclude, that Steve Ballmer's comments are aimed at those who have not yet used OS/2. If that is the case, then he is the one guilty of practising FUD. I am speaking here as a software developer of business solutions. I sympathize with those who can't justify throwing out their DOS and Windows applications in order to run a superior operating system. What I am saying, is that it's not a simple OS/2 versus Windows issue.

With respect to OS/3 or Win32/NT, or whatever it's being called today, even Microsoft has pointed out that this yet to be demonstrated environment is targeted at the high end RISC workstation and 486 33 mhz market. They further add that 8 megabytes will be the minimum memory required. As for delivery given Microsoft's track record, I would indeed be surprised to see this in second quarter '92, fully debugged and operational. Why would I the developer and any other serious OS/2 user, want to drop what's available now, for some future intangible which may or may not ever be delivered.

I've seen OS/2 2.0 running Winapps, and I've seen the new 2.0 workplace shell

Continued on page 10

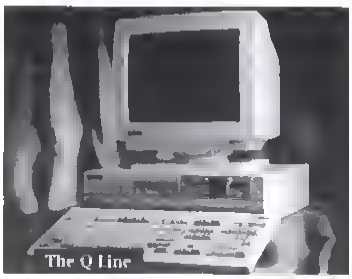
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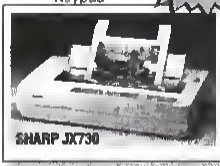
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Letters

Continued from page 9

that gives OS/2 Mac-like object oriented capabilities. I'm more excited now about OS/2 than I've ever been. My hope is that 2.0 will allow users with DOS and Windows investments to finally discover for themselves what the fuss is really all about. I think this is what is really worrying Steve Ballmer of Microsoft.

Yours truly,
Claude Biron
Systems Analyst, BC Telephone Company

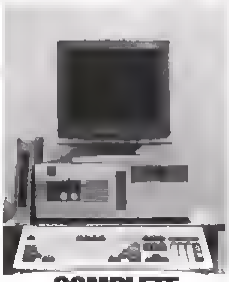
We share your enthusiasm for OS/2 2.0, and the advanced technology it represents. However, as the features on workstations and Unix point out, people buy applications, not operating systems. We suspect that users will realize Windows inadequacies in the areas you mentioned just about the time that Microsoft's marketing machine tells them to.

This issue's feature articles, we hope, serve to illustrate how, when the going gets tough, the tough get workstations. As we start pumping ever larger amounts of data through our machines, we begin to see the areas where PCs, Macs, etc., don't measure up. Some users might never need the power of a workstation, but it's nice to know what's available—and why.

As for what Mr. Ballmer's been practising, we were going to say the same thing on page 54 of our last issue. Did anyone else notice?

The Computer Paper welcomes readers comments. Letters may be edited for brevity or clarity

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Local Software Heroes at Softworld

by Cathalynn Labonté-Smith

Softworld '91 (September 22-25) brought together over 250 software developers and investors from Asia-Pacific countries. Delegates from China, Singapore, Australia, New Zealand, Japan, Canada and the U.S. had an opportunity to make their sales pitches in fast-paced trading forums.

The trading forums were limited to only seven minutes per company. An electronic timer was rigged so that when the green light came on it was your turn to go. Within that seven minutes companies had to give historical background, explain a complex, high technology product complete with slide show, video, or overhead transparencies. Then it was, uh oh, yellow light on the box, two minutes left to make a pitch for money, distribution, or marketing partners, and tell the folks where you can be reached, whew, red light—next!

Some presenters forgot to tell the audience where their company was from and sometimes even who they were. However, considering the high-pressure situation these delegates were placed in, I think it went relatively smoothly, except for a few companies that got tripped up by their audio-visual equipment.

Here is a snapshot of some of the local heroes that made it through this adrenaline-producing event, most of them were hoping to attract venture capitalists, investors, marketing partners, and distributors:

BOLD POINT SOFTWARE LTD.

#701-340 West Cordova St., Vancouver V6B 2V5 Tel. 687-2000 Fax: 683-4911

Allen Morton, Director, and Kerry Johnston, President, did a tag-team presentation about Bold Point's inventory control software called TMAN. Their products are directed at small to medium-sized Canadian businesses.

CRYSTAL INNOVATIONS LTD.

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Tim Applehurst presented their A.I. tool for the Macintosh called IntraVision.

DYNAMIC SIGNAL ANALYSIS CORP.

430-3700 Gilmore Way, Burnaby Tel: 433-8515

Produces a vibration-monitoring system with menu-driven software.

Markets a predictive maintenance system to pulp and paper mills, and also markets to military and industry. Price: $15-40,000 up to $1,000,000 for online systems.

MACDONALD-DETTWILER & ASSOC.

13800 Commerce Parkway, Richmond V6V 2J3 Tel. 278-3411 Fax: 278-2117

Bernie Clark, Director of Sales, gave a fascinating performance on the satellite ground stations (Landsats) that MDA produces for the purpose of earth observations for meteorology, resource management, defence, and aviation, and on the Canadian Space Station.

MINDFLIGHT TECHNOLOGIES INC.

218-3700 Gilmore Way, Burnaby, B.C. V5G 4M1 Tel. 454-6403 Fax: 430-0144

Bruce White, VP Marketing, gave a show-stopper demonstration of Mindflight's Safetec Alarm Card. When a computer with this board installed in it is moved, a piercing alarm sounds until the computer stops moving, a kind of car alarm for your computer. White made a grand exit carrying the screaming computer out of the room.

MOTION WORKS INC.

#300-1334 West 9th Ave., Vancouver V6H 1C4 Tel: 732-0299 Fax: 732-5606

Randy MacCallum, co-founder, announced that Motion Works' new stand-alone animation product, PROMotion, will be compatible with System 7, and will be ready for market in December of this year. Also, MacCallum said that an upgrade to their ADDMotion animation authoring tool will also be available this year.

PATHFINDER SOFTWARE

1577 West Georgia St., Vancouver V6G 2V3 Tel: 682-6633 Fax: 682-3929

Ken Bailey, President, gave a presentation on their human resources/payroll software called Star Garden HR that operates in DEC, AS/400, HP, HPUX and RS/6000 environments.

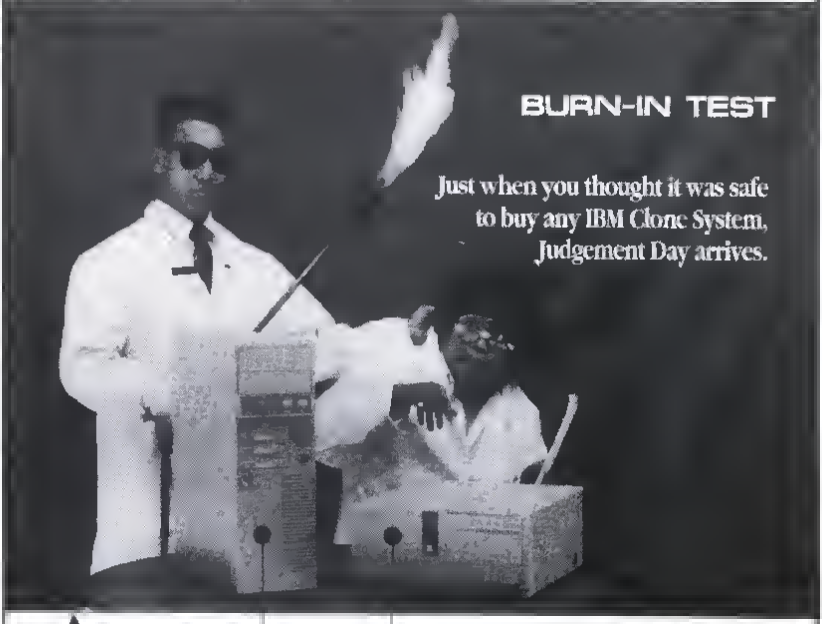
QUORUM COMPUTER GROUP

321 East 5th Ave., Vancouver V5T 1H4 Tel. 879-6886 Fax: 879-0214

Jim Secord, product manager, pointed out that Quorum doesn't just copy floppies anymore. Quorum also creates multimedia demo disks for companies like B.C. Tel, Northern Digital and Roland. Their latest project was to do the demo disk, complete with animation and sound for Softworld. During Softworld, Quorum's demo was in action on computer terminals in the foyer to give delegates background information on

Continued on page 12

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all the attendees. There was even a map of the world, where you could click on a country and get a list of the companies attending the conference from that country. Secord announced that they will be releasing a new Windows application in 1992.

TGI TECHNOLOGIES LTD.
107 E. 3rd. Ave., Vancouver V5T 2C7
Tel. 872-6676 Fax: 872-6604

Doug Mazur, former Vice President of TGI, a 22-employee branch office of Trade Globe of Los Angeles, Toronto and Ottawa, made an eloquent presentation about their fax board product, and about their multi-media Unix product that is now in beta test.

VIRTUAL ACCESS SOFTWARE CORP.
403, 1040 Hamilton St., Vancouver V6B 2R9 Tel: 683-5180 Fax: 683-5168

Verne Andru, President, revealed his new Video Suite product, which is a desktop video application using Microsoft's Audio Visual Interleave platform and Microsoft's Multimedia extensions. Video Suite will allow home businesses and professionals to edit their own videos on PCs running under Windows.

Verne Andru says Video Suite is, "Like PageMaker for video. It allows you to bring

Continued on page 13



AmigaDOS 2.0 released; new Amiga UNIX release due

VANCOUVER, B C , OCT 15 (TCP)—Ken Moren of the Computer Store reports brisk trade in upgrades to the new release of AmigaDOS—the long-awaited 2 0 release Amiga owners will find that this upgrade is more comprehensive—and, at $199, more expensive—than previous upgrades. The new release, launched in Vancouver at a Commodore-hosted dealer orientation and training seminar October 22, consists of new Kickstart (operating system) ROMs, WorkBench (GUI) and ARexx (interprocess communication) software, plus a complete manual

Amiga 3000 owners, as "early adopters" of that machine's beta version of the 2 0 OS, have already begun to receive their free upgrades to the final release version

In other Amiga news, Moren reports that, as an Amiga 3000UX owner, he is very pleased with Commodore s implemenation of Unix System V 4 for the Amiga (sometimes referred to as AMIX 2 0) and the system s performance He adds that owners of other Unix systems in its price range (around $9000 for a complete 25MHz Amiga 3000UX system with color monitor, 8MB of RAM and a 200ME hard drive) "can't believe how fast it is." In fact, Byte magazine found that it outperformed equivalent NeXT and Macintosh machines running Unix (Mach and A/UX, respecively) A basic system, consisting of an Amiga 3000 with 4MB RAM, 100MB hard drive, and color monitor is $7200; in both cases Unix is preloaded and ready to go

The currently shipping version of Amiga Unix comes with OpenLook, the graphical interface found on Sun Workstations, utilities from GNU Software such as its highly respected C compiler and emacs full screen editor plus RFS and NFS networking utilities and the Korn shell Additionally, there are megabytes of on-line help pages available via Unix s "man" command and a beginner-oriented set of bound manuals although the complete set of AT&T/Prentice Hall Unix manuals must be purchased separately

The X-Window implementation in the current release is version 3, but, as Moren reports, there is a new release of AMIGA UNIX due "any time now," that will have the most recent version of X-Window, X11 R4

Amiga Unix Is missing a few finishing touches—mostly minor things like a menu-driven system administration utility that has a few menu items that don t do anything yet, but generally Moren reports, the system is stable and robust. "Besides," he adds, "most System Administrators would do that sort of thing via the command line, anyway."

Although the Amiga s native multitasking operating system AmigaDOS cannot run concurrently with Unix, the two can coexist on the same hard drive Unix compatibility is said to be good. One user of SCO Unix reports that he was able to port a 10,000 line application from the SCO Unix environment to the Amiga in about 45 minutes.

Contact Ken Moren, The Computer Store, 604/273-8443 Commodore 604/421-4443

SoftWorld *Cont. from page 12*

in audio, video, titles and music, organize it and sequence it, theo automatically assemble presentations to videotape or to diskette, or generate an industry-standard CMX edit decision list which can be taken to a professional post-production house "

Most of the delegates I spoke with informally felt that they got their money's worth from this convention even though there was some initial disappointment when it was discovered that only seven attendees representing venture capital funds, and no major software distributors like Egghead were in attendance

Also although no company could tell me that they got an immediate benefit from the conference like being picked up by a major investor or forming a marketing partnership, the attendees seemed to feel that the benefits would be in the long-term I certainly sensed that it was an energetic, sympatico crowd, especially in the close quarters of the Vancouver Harbour cruise on the MV Britannia. Softworld was an all-round success, and Softworld v 2.0 in 1993 should be even more successful. ❐



Lucky Guy

This last month, Compumax held a free draw for a 9101 Raven Printer Of the hundreds of entries, Raymond Lau, a systems analyst with BC Tel, shown here with Compumax Systems' Holly Ingram was the proud winner of the grand prize

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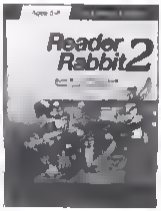
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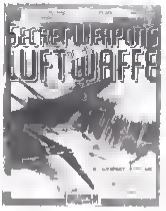
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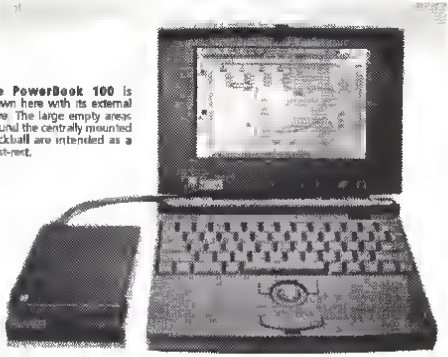
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WHAT'S NEW

Mac to go

First Impressions of Apple's PowerBook Portables



The **PowerBook 100** is shown here with its external drive. The large empty areas around the centrally mounted trackball are intended as a wrist-rest.

TORONTO, ONTARIO, OCT 21 (TCP)—Apple Canada has released three new portable Macintoshes, the PowerBook models 100 140 and 170. *The Computer Paper* had an opportunity for a hands-on test of the PowerBookr Our initial impressions were generally favorable, with a few concerns.

The C$2595 PowerBook 100 is the low-end model (Apple's PR department prefers the term high-volume), and is said to be built by Sony. Powered by a 16 MHz 68000 processor, the 5.5-pound PowerBook 100 is comparable in performance and feature to Apple's earlier 16-pound Macintosh Portable.

Of course, a few niceties found in the original Portable had to go to get the weight and size down so dramatically... an internal floppy drive, for example. That's right, the PowerBook 100 doesn't have a built-in floppy disk drive, but, unlike Apple USA's policy of selling an "optional" floppy drive, all Canadian PowerBook 100s will only be sold bundled with the external drive.

The PowerBooks 140 and 170 utilize 68030 CPUs, running at speedr of 16 and 25

Continued on page 16

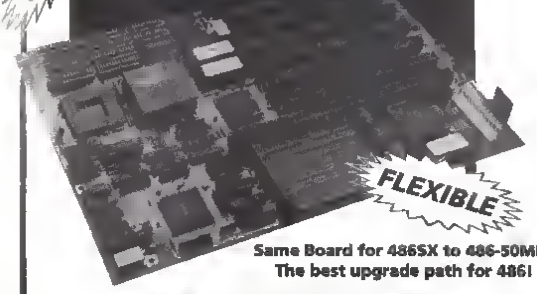
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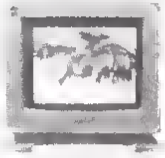
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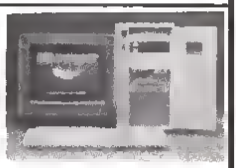


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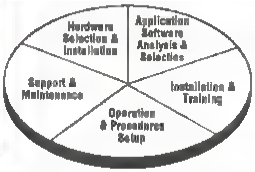
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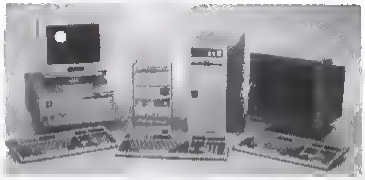


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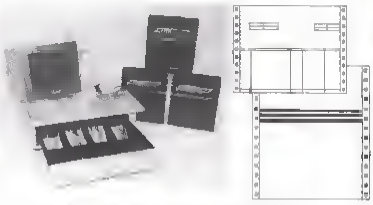
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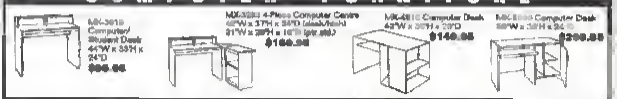
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Of course, a few niceties found in the original Portable had to go to get the weight and size down so dramatically ... an internal floppy drive, for example. That's right, the PowerBook 100 doesn't have a built-in floppy disk drive, but, unlike Apple USA's policy of selling an "optional" floppy drive, all Canadian PowerBook 100s will only be sold bundled with the external drive.

The PowerBooks 140 and 170 are powered by more-powerful 68030 CPUs, running at speeds of 16 and 20 MHz respectively. This pegs the 140 (5.5 lbs) at about the speed of a Mac IIcx, while the 170 (7.5 lbs, including an internal send/fax modem) zips along like a Mac IIsi. Both come with an internal floppy drive and audio input capabilities not present in the PowerBook 100.

The first thing one notices about a PowerBook is the centrally positioned trackball. (We assume this unusual placement is for the benefit of left-handers.) The large flat areas surrounding that love-it-or-hate-it pointing device make a convenient wrist-rest. The new standard-layout keyboard has no function keys or numeric keypad, all-in-a-row cursor keys (ugh!), a very shallow key travel, and a light feel. Fortunately an external keyboard and/or mouse can be plugged into the unit's ADB (Apple Desktop Bus) port. An external keypad is also planned.

We found the position of the trackball button to be somewhat close to the spacebar—so close in fact, that it is easy to hit the button by accident while typing. The PowerBooks 140 and 170 have a raised lip between the two, presumably to prevent this. We wonder why the model 100 doesn't.

On the other hand, the 100 has one feature that its more expensive siblings do not: a "docking station" feature that allows the PowerBook to access the hard drive of a desktop Mac. This is similar to (but according to an Apple spokesman, not based upon) technology found in the OutBound portable—which Apple earlier licensed the rights to.

It seems a bit strange that the PowerBooks—presumably designed to be carried around—come without a handle or carrying case. We also found it curious that none of the three models have grayscale displays. An Apple spokesperson claimed that current grayscale displays didn't offer acceptable performance, but based on some PC notebooks we've seen recently, we wonder if it wasn't more of an economic decision on Apple's part.

Even more curious is the fact that, although the models 140 and 170 have Apple's 32-bit Color QuickDraw in ROM, there is no video out connector, or Apple-brand color or grayscale video adapter options planned. We have learned, however, that at least five third-party developers are planning to offer video output options that circumvent Apple's lack of a video connector. Two varieties are expected: those that plug into the SCSI connector and those that plug into the RAM expansion slot. Of the two, the latter appears to be a better choice. SCSI-connected video devices are limited to SCSI throughput speeds and are thus expected to suffer from limited display performance. A company called Enviso Inc. (612/653-7894) is releasing a RAM-slot display adapter for the models 140 and 170 that will support monochrome displays (up to 21-inch) and 256 colors on Apple RGB and VGA-compatible displays. It also sports a pass-through slot, so that the slot may still be used for adding 2 or 4MB of RAM. The company also offers a monochrome-only model for the PowerBook 100.

Complaints, complaints! Are the Powerbooks perfect? No. Do we like them? Yes! Of the three, the model 140 looks to be many people's favorite. With a third-party color video option and an external keyboard to plug in, it offers an excellent balance between features and price. ❒

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EVENT

NeXPO '91 dates set for Vancouver & Victoria

Advantage Computers is sponsoring NeXPO'91, a NeXT hardware and software product solutions showcase taking place in Vancouver November 6 and in Victoria on Nov 7.

It is a free event, but you must pre-register by calling Advantage's Vancouver office at 685-6227 or the Victoria office at 380-9988. Advantage's Paul Guzyk says that among the interesting products that will be shown is a beta version of Executor, a software Mac emulator.

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Oki Revisited

Apparently, the popularity of the OkiLaser 400 has made the memory upgrade prices more competitive. Several readers wrote or called in to advise us that third-party RAM expansions are available for the OL400 that go a long way toward addressing our major complaint with the printer (see OkiLaser 400 in our October '91 issue).

The Print Connection (see advertisement on Page 36), for example, has third-party memory upgrades for the OL400 at prices almost one-third of these for original OKI parts. An OKI brand 1 meg expansion is about $350 while The Print Connection's is $139. The upgrade package comes with instructions and is quite easily user installable if the user has had a bit of experience with other kinds of computer installations. Users can optionally have the work done for an additional $50 for labour.

Reader Paul Byford reports that another OKI400 advantage is the low cost of the toner cartridges ($90 or so).

The low price is possible because, unlike Canon engines found in the popular HP laserprinters, the OKI400 s toner and drum assemblies are separate.

Now if someone could only offer a recycling service for the OKI cartridges.

Readers who haven't yet entered our contest to win an OkiLaser printer still have time to enter. See the Oct issue of The Computer Paper for details.—Ed.

Cooking up a Story

We hear that Steve Ayer, head of Brother International s Western Canada Service department has been taking some heat lately for some of the information cooked up in Chris Small's article last issue, Ozone—Friend or Foe?

It seems that the description—attributed to him—of using an oven to rejuvenate ozone filters isn't such a good idea after all.

Small apparently sent us an "in progress" copy of the article, which we dutifully published. Ayer now claims he was misunderstood. So, folks, until we straighten this situation out with some facts bake bread, not ozone filters.

Last month we ran the wrong number for Kalmon Communications Inc's BBS number. It is in fact, (604) 944-0047.

System provides data security for all DOS systems

CALGARY, ALBERTA, SEPT 1 (TCP)—Perfect Solutions has become the Canadian master distributor for the PC ACCESS Hard Drive Security System from Renton Products of Seattle.

The $149.99 (Cdn.) product comes complete with both 3.5 and 5.25-inch floppy media as well as separate supervisor and user manuals in order to complement the "heart" of the system—an actual ISA-compatible card that can be installed into any 8-bit slot on any IBM or compatible computer system.

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NewsBytes

APPLE

Apple Licenses Handwriting Recognition Technology

BOULDER, COLORADO, OCT 7 (NB)—Paragraph International, a joint Soviet-American business venture company, has announced that it has signed a licensing and development agreement with Apple Computer for Paragraph't cursive handwriting recognition technology. Financial terms of the agreement are confidential.

Paragraph technology provides Apple with a foundation for recognition of printed, written or block handwritten text, and could be used to develop recognition systems for formulas, symbols, and simple graphics.

A Paragraph spokesperson told Newsbytes that the system is already available for 486-based PCs but didn't know what specific uses Apple planned to make of the technology. She said some typical applications for handwriting technology include automatic routing of incoming faxes, and handwriting recognition in security applications. It could also be used for verification of check signatures, but she said banks are still unsure of how their customers would react to such usage.

Paragraph International says they do not market directly to the end consumer, but rather to OEMs (original equipment manufacturers) such as Apple. The company sees handwriting recognition as a natural adjunct to the development of pen-based computing, a newly developing technology currently being pursued by a number of manufacturers. Previously announced recognition systems for pen-based computers require the user to print characters. Pen system users enter information directly onto a digitizing tablet or screen instead of using a keyboard.

Paragraph JV, the Soviet half of the joint venture, started development of cursive handwriting recognition technology in 1989, in affiliation with two Soviet agencies, the Council for Economics and Mathematics, and the Academy of National Economics.

The Apple agreement is not an exclusive, and Paragraph says they are exploring similar licensing agreements with other OEMs. Paragraph recognition technology consists of Calligrapher, software which can decipher written text as it is written, and the basis for the pen-based recognition system, and Parascript, a trade recognition system used with an OCR (optical character reader) for such applications as scanning an incoming fax header sheet and routing the fax to the addressees whose names were written on the header sheet.

Contact: Michael Riemer, Paragraph 303-443 8777 Brooke Cohan Apple Computer 408-974-3019

Mac Notebook To Have Much Vendor Support

CUPERTINO, CALIFORNIA, OCT 10 (NB)—Newsbytes has learned that there is a whole slew of vendors who are preparing products that will be compatible with Apple's new Notebook computers. The Notebook introduction is slated to take place on October 21 at Comdex/Fall.

Newer Technologies, Lifetime Memories, Technology Works, PSI Integration, and Computer Care are all preparing to release 2, 4 and 6 MB RAM upgrades for the Notebooks.

GD Technologies will have a portable CD-ROM player available as well as a 100MB hard disk. Also offering hard disk upgrades or replacement units will be Liberty Systems, CMS Enhancements and Microtech.

Most new product introductions that are compatible with the Notebook will revolve around communications. Not only will Apple introduce a 2400 baud modem of its own but Global Village will show a 9600 baud fax modem and three other modem models with different capabilities. These products will be named LapFax, TelePort, LapPort V.32 and FullFax. Shiva will have its series of products that will be fully compatible with the Notebooks, including the NetModem, NetModem/E, TeleBridge, NetBridge, FastPath, and EtherGate. Lifetime Memory will show an internal modem at will PSI Integration which will also have a portable V.32-based modem. Dayna, Asante and Novotech will have SCSI Ethernet Adapters ready for the new machines.

If you don't particularly care for Apple's choice of display technology then Envisio, Radius, Aura Systems, Computer Care, Lifetime Memories, and InFocus are ready to step in and take care of your needs with video adapters and LCD panels.

Lind Electronic Design will offer power adapters, battery replacements for longer operation, and chargers. Kensington will fill in the gap of carrying cases along with Madson Line. While Premier Technology will supply you with handles, shoulder straps, or locking devices so that others cannot access your computer without your knowledge.

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Apple Canada Unveils New Printers, Cuts Prices

TORONTO, ONTARIO, OCT 10 (NB)—Apple Canada unveiled two new high-end laser printers and a scanner at MacWorld Canada. The company has also cut prices on a number of products.

Apple Canada used the occasion of the second MacWorld Canada show to announce the availability in Canada of its two new high-end LaserWriter printers, which the parent company had unveiled a few days earlier. The LaserWriter IIg and IIf are the first Apple printers to use Adobe's Postscript Level II page description language. In Canada, they carry suggested retail prices of C$5,999 for the IIg and C$4,599 for the IIf. Controller board upgrades are C$3,020 and C$1,999 respectively.

Apple also announced the Apple OneScanner, which it said is the first controlled by a single button. The Canadian suggested retail price is C$1,659.

On the eve of MacWorld, Apple Canada cut prices on several midrange Macintosh models. The price for the Mac IIsi with three megabytes of memory and a 40-megabyte hard disk was cut from C$5,013 to C$3,270. That of the Mac IIci with five megabytes of memory and an 80-megabyte drive was reduced from C$7,040 to C$5,960. Other new prices are: C$2,599 for the Macintosh LC with two megabytes of memory and 40-megabyte drive; C$1,729 for the Mac Classic with two megabytes of memory and 40-megabyte drive; C$1,429 for the Personal LaserWriter LS printer; C$2,919 for the Personal LaserWriter NT printer; C$619 for the StyleWriter printer; C$319 for the Macintosh 12-inch monochrome display; and C$659 for the Macintosh 12-inch RGB color display.

Contact: David Wright, Apple Canada 416-477-5800; John Sias or Julie Rusciolelli, National Public Relations for Apple Canada 416 860 0180 fax 416-860-1094.

MacWorld Canada: Networking, Multimedia Popular

TORONTO, ONTARIO, OCT 10 (NB)—Multimedia technology and networking were hot topics at MacWorld Canada as a variety of hardware and software vendors unveiled new products.

Linker Systems of Irvine, California, released alpha test copies of version 2.0 of The Animation Stand, its animation and paint software. The final release is expected later this year, Linker said. The new version has an assortment of added features, including a completely pictorial interface, a "subscripdon" feature similar to System 7's publish and subscribe but that does not require System 7 to work, a user-defined toolbox, HyperCard help, and assorted new paint features.

Artbeats, of San Bernardino, California, announced that its Backgrounds for Multimedia Volume 2, a package of 40 computer-generated background images, is now available. Designed to work with desktop presentations, slides, three-dimensional modelling programs, animation, or video, the package is available only on CD-ROM and requires a Macintosh II, SE-30 or higher with four megabytes of memory, a CD-ROM drive, and a color or grey-scale monitor.

Artbeats also unveiled Dimensions Volume 3, a package of full-page encapsulated PostScript grids, high tech perspectives, and reliefs. This is meant for desktop publishers from novices to professionals, the company said.

Placemat Productions of Toronto launched Toronto Eats, an electronic restaurant guide in the form of a HyperCard stack. It can print maps showing the closest subway station to each restaurant, the company said, and users can use their Macintoshes to call in reservations. The stack costs C$20.

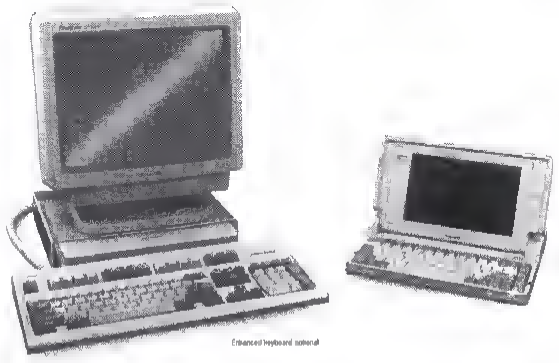
Animatics, an Ottawa computer graphics and animation company, said it will shortly release Impresario, a clip-animation product that will support various Macintosh presentation software packages. Due for release in January, Impresario will contain color and monochrome Scrapbook and PICS files with business and educational themes.

Berkeley Systems of Berkeley, California, showed More After Dark: The New Batch, a selection of new displays for its After Dark screen saver. Ann Crampton, an international marketing official from Berkeley also told Newsbytes the company is in the process of adapting products for blind computer users including a voice synthesis system called Ouspoken that won a Computerworld Smithsonian award, to Microsoft Windows. Berkeley hopes to release Windows versions of all its products for the blind within a year, Crampton said.

Ikegami Electronics of Elmhurst, Illinois, unveiled five new monitors for Macintosh and IBM-compatible PCs. The CN-20A is a 20-inch maxi-sync monitor, now shipping. New Trinitron models with automatic scanning frequencies of 31 to 81 kilohertz horizontal and 50 to 150 hertz vertical include the 17-inch CT-17A and the 20-inch CT-20A. Both are slated to be available in December. A dual-scan version of Ikegami's Trinitron CT-20, the CT-20D, is to be released by year-end. The GN-21A with a "flat square" screen, is to be available in March of 1992.

SuperMac Technology of Sunnyvale, California, cut prices on its Spectrum eight-bit graphics cards from C$1,250 to C$999. The company also announced an across-the-board increase of warranty protection to five years for both eight-bit and 24-bit cards.

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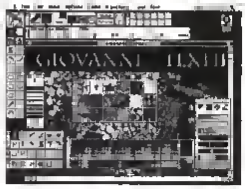
MACWORLD REPORT

On the networking side, Ottawa-based Caravelle Networks announced Mac-to-Mac Networks, software that uses standard pagers, electronic mail, and alarms at the terminal to alert network managers to potential problems. The software monitors all AppleTalk registered nodes, servers, routers, printers, and network services, and notifies the manager when any of these disappears from or reappears on the network. At present the software works only with Macintoshes, a company official said, but a version that will monitor all devices on a TCP/IP network is under development.

DataViz, of Trumbull, Connecticut, said it has updated MacLinkPlus/PC, its software for transferring and translating files between Macintosh and DOS PCs. The new release offers more than 200 new translations, support for System 7, and an automatic file recognition feature that determines automatically what is the original format of a file to be converted. An interface for Microsoft Windows has also been added, the vendor said.

Contacts: Alfredo Coppola, Animatics, 613-235-9000, fax 613 233 7157, Debra Bates, Artbeats 714-881-1200 fax 714-881-4833, Ann Crampton, Berkeley Systems 510-540-5535 fax 510 540-5115, Steve Traplin Caravelle 613-596-2802 fax 613-596-9659, Stacey Graham DataViz, 203-268-0030, fax 203-268-4345 Suzanne Arnold, Ikegami, 706-834-9774 fax 706-834-9683 Toni Popel, Linkel Systems 714-552 1904 fax 714-552 6985 Mark Hyland Placemat Productions, 416 960-3834 fax 416 515 0049, Jennifer Delamare, SuperMac, 408 773-4403 fax 408-735-7250

Aldus Ships Superpaint 3.0



SEATTLE, WASHINGTON, SEP 24 (NB)—Aldus Corporation has announced that it is now shipping Superpaint 3.0, its integrated paint, draw and image enhancement program for the Macintosh.

The company says 3.0 is a major upgrade, with new features supporting both black-and-white and color as well as 1-, 8-, 16and 32-bit documents. Users with an 8-bit monitor can use over 16 million colors.

Other significant features include texture fills, gradients, hot keys and image-enhancement capabilities. Aldus says users can achieve photo-realistic technology to their project using Superpaint 3.0

For texture fills, users can use the Aldus built-in selections, create high resolution paint and draw textures themselves, or import EPS textures created with other programs, such as Aldus Freehand. The texture fills can be applied in both paint and draw layers of a document.

Gradients can also be created in both the paint and draw layers, and users can create Postscript-language gradients in the draw layer. Up to 256 colors can be applied to a single gradient, and users can specify the direction and type of gradient fill using a palette of over 16 million true and dithered colors.

Hot keys provide access to tools and palettes with a single key stroke eliminating the necessity to go through several layers of menus. According to Taylor, the new Superpaint is easier to learn and use. "Users benefit from a reduced learning curve," she said.

The image enhancement capability allows the user to balance color, mask, smudge, diffuse, lighten or darken, invert and adjust brightness and contrast of their images.

Superpaint 3.0 has a suggested retail price of $199. Registered owners of earlier versions of Superpaint can upgrade for $65, plus shipping and tax. A Mac Plus, Classic, SE, Portable, SE/30, LC or II series with 2 megabytes (MB) of RAM is required, along with a hard drive and an 800 kilobyte floppy drive for black-and-white work. For color, Aldus says you need at least 2MB of RAM but recommends 4MB. Also needed is the 32-bit Quickdraw product. Superpaint 3.0 is system 7.0 compatible.

For more information about Superpaint 3.0 contact Silicon Beach Software (the Aldus subsidiary that developed Superpaint) at 619-695-6956

Contact: Joanne Bush, Silicon Beach Software 619-695-6956

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MACWORLD REPORT

MacWorld Canada: Panelists Focus on System 7

TORONTO, ONTARIO OCT 10 (NB)—Neither John Sculley nor any other senior Apple executive was at the microphone to kick off the second MacWorld Canada show this week. Instead System 7, the latest release of the Macintosh operating system, was the star.

Visitors were however, treated to some thoughts from well-known industry analyst Amy Wohl and others from outside and inside Apple concerning where the technology may lead.

A three-hour keynote session led off with Allan Rubinsky, system software manager at Apple Canada, demonstrating the key features of System 7. "The big news at MacWorld," Rubinsky said, "continues to be System 7 and System 7 applications."

After Rubinsky's demo, though, Wohl offered here views on System 7 applications present and future. Current System 7 software Wohl said, takes advantage of a few of the operating system's features at best. "If I had to describe all these applications as group," Wohl said, "my summary word would be 'boring.'"

Applications that really take advantage of System 7 should start to appear early next year, Wohl forecast. The first of these will be major upgrades of existing software. By late next year, she added, all-new packages built around System 7's capabilities will start to emerge.

Among the possibilities, Wohl said are desktop publishing applications that enhance integration with other applications, and multimedia tools.

Panelist Bob LeVitus most recently distinguished as the author of the book *Stupid Mac Tricks*, said that while the publish and subscribe capabilities in System 7 are little used in current applications, they will come to be very useful. Publish and subscribe lets users incorporate data from one application in another application's file and have it updated automatically when the original data changes. One use for this, LeVitus said, will be to help stop mainstream applications programs like word processors from getting too big by letting them rely on other programs for special functions such as equation editing.

Rick LeFaivre, software director at Apple's advanced systems laboratory in Cupertino, California, offered a peek at what Apple has in mind for the future.

He touched on nine areas in which the company is doing research. They include new interfaces, both speech-based and pen based, multimedia, and graphics—"my vision is to drive some level of graphics integration down onto the motherboard," LeFaivre said.

Other technologies new in the Apple labs include frameworks for distributed applications, further work on operating systems, new hardware capabilities such as digital signal processing and solid-state storage, wireless and high-speed communications, new software development tools, and technology for education.

LeFaivre showed a video clip of Plaintalk, a voice recognition system developed at Carnegie-Mellon University that interpreted ordinary speech almost perfectly even when the speaker coughed, stumbled, and introduced background noise.

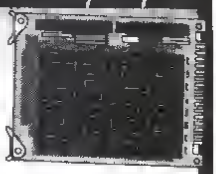
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NEWSBYTES

Microsoft Previews Future Word For Mac

TORONTO ONTARIO OCT 10 (NB)—At its booth at MacWorld Canada this week, Microsoft showed an "upcoming product" that will be the next release of Microsoft Word for the Macintosh

Jeff Smith, product manager for Word at Microsoft Canada, would not assign a version number to the software he demonstrated but said it would be announced by the end of this year

Among the features is a simplified merge capability, which prompts the user with a dialog box and then places available merge fields at the top of the master document for the user to place them with the mouse There is also a built-in search engine which can find files much as the Find option in System 7 does Also, Microsoft has added a command "ribbon" at the top of the screen, allowing the user to select common formatting options by clicking on icons.

The demonstrated software also included a grammar checker the ability to add borders and shading to paragraphs, and support for the publish and subscribe capabilities of Macintosh System 7

The company would not comment on pricing or availability

Contact: Microsoft Canada, 416-568-0434 fax 416-568 1527

Apple And Sony To Link Up?

CUPERTINO, CALIFORNIA, OCT 10 (NB)—Apple Computer and Sony Corp are reported to be considering a joint venture that would merge Apple's easy-to-use software with Sony's consumer electronics hardware

The repors, in the *New York Times*, maintains that senior executives of both companies have been discussing the venture, although the details are being kept secret.

The reports of discussion come just two weeks before Apple launches its long-awaited Macintosh notebook computers, one of which was made by Sony

The alliance, should it develop into a concrete agreement, is considered further evidence that the trend toward digital audio and video is leading to a new generation of products that are barely distinguishable from low-end computers.

The new notebook is said to be a considerable improvement over Apple's attempts at portable computing in the past. The company has tried for many years to produce a lightweight system The prospective alliance with Sony is said to have developed as a result of the cooperation between the companies in developing the new notebook.

As reported by Newsbytes, Apple has recently announced an industry-shaking cooperative alliance with long-time enemy IBM, to produce new object-oriented software and RISC (reduced instruction-set computing)-based hardware

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NEWSBYTES

Apple, IBM Name Joint Ventures, Discuss Details



SAN FRANCISCO, CALIFORNIA, OCT 8 (NB)—Two long-time rivals, Apple Computer Chairman John Sculley and IBM President Jack Kuehler, stood side by side October 2 and vowed that their companies would both cooperate and compete in the future. Accompanied by Jim Norimg, president of Motorola's semiconductor products sector, several senior Apple and IBM executives and representatives of other big names in the computer industry, Sculley and Kuehler outlined five ways in which Apple and IBM will work together.

They did so before an audience of reporters, analysts, and industry executives in San Francisco as well as at videoconference sites across the United States and in Canada and Europe.

New details of the Apple-IBM alliance, the broad outlines of which were announced in early July, included the names of two joint-venture companies. Apple and IBM have created Taligent, which will develop object-oriented operating software based in part on Pink, new operating software that Apple has been developing for about three years. The companies did not confirm rumors that David Liddle, chief executive of Patriot Partners, will become CEO of Taligent. Patriot Partners is IBM's joint venture with Metaphor Computer Systems.

The firms said Taligent's operating system will be able to run applications written for IBM's OS/2 and AIX as well as Apple's System 7. They would not say, however, whether the new software is expected to replace those systems in the future, co-exist with them, or be integrated into future versions.

Apple and IBM also christened Kaleida, a second joint venture that will promote standards for multimedia. Sculley said both companies will license to Kaleida multimedia technology that they have developed independently. Engineers from Apple and IBM will be seconded to Kaleida to work on multimedia development. Kaleida will then make its technology available to other vendors.

"Multimedia won't meet its potential as an integral part of computing until uniform standards are available across the industry," said James Cannavino, IBM vice-president and general manager of personal systems.

Kaleida will be based in the San

Continued on page 25

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80386SX-25 0 slots Exp 8MB	$280	80387-SX20	$175	IDE controller	$30	Novell 2 user AraNet	$480	Chinese For Windows	$70
80386DX-25 8 Slots Exp 8MB	$380	80387 DX25	$245	AT I/O card	$12	Novell 2 user EtherNet	$680	PageMaker 4.0	$570
80386DX-33 64K Exp. 64MB	$660	80387-DX33	$255	Dual Serial 16	$10	8 bit AraNet card	$95	C++ for Windows	[illegible]
80386DX-40 64k Exp 64MB	$680	80387 DX40	$290	IDE 2 I/O card	$30	16bit AraNet card	$110	Corel Draw 2.5	$445
80485X-20 64k Exp. 64MB	$700	Data Mouse 3B	$25	101 Keyboard	$40	8 bit EtherNet Card	$140	Excel	$340
80486DX-33 64k Exp 64MB	$930	Everdata Mouse 3B	$25	Focus 2001	$60	16bit EtherNet Card	$160	DBASE IV	$55[illegible]
80486-33EISA mainboard	$2300	Logitech 3B mouse	$60	Ultrastor 14F 2MB	$210	Lantastic 3 (5.P 2M)	$120	Word for Windows	$33[illegible]
Per Megs RAM	$65	MicroSoft 3B mouse	$60	Ultrastor 12a 2MB 16/8	$930	Networks Remove Ctrl	$160	PCanywhere IV	$1[illegible]
64K SRAM for Cache	$65	Logitech mice & Windows 3	$140	Ultrastor 24C 2MB IDE	$370	QEMM 386 v6.1	$60	PCanywhere LAN	[illegible]

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NEWSBYTES

Continued from page 23

Francisco area. Taligent will have its headquarters in Santa Clara, California.

IBM, Apple, and Motorola plan to promote a new PC hardware architecture called Power PC based on IBM's RISC System/6000 technology. IBM and Motorola will work together at a facility in Austin, Texas, to develop and build Power PC chips, Nerling said. Motorola will offer these chips to other vendors, while both IBM and Apple will build systems around them.

Sculley said Macintosh models based on the Power PC architecture will be "our mainstream Macintosh by the middle of the decade." He added that he expects the RISC Macs to be the highest-volume RISC computers ever.

The two companies also plan a Unix-based operating system called PowerOpen to run on Power PC-based systems. Power Open will bring together Apple's A/UX version of Unix and IBM's AIX. Michael Spindler, president of Apple, said Power Open will reach the market in about two years. It will be able to run on a range of machines from desktop PCs to powerful workstations and servers, he said, and both Apple and IBM will offer it on some of their products. The companies also plan to license PowerOpen to other vendors.

The fifth point of the alliance will be an effort to simplify networking of Apple and IBM systems. In an effort to "make it possible for customers to more easily integrate Macintosh computers with IBM systems," Cannavino said, the two companies will licence each other's networking technologies (Apple's AppleTalk and IBM's Token Ring) and develop products to help their PCs work together.

Sculley said the alliance with IBM would help Apple bring the Macintosh into the mainstream of personal computing.

Kuehler said that despite their long-standing rivalry and the perception that they have very different corporate cultures, Apple and IBM "have found that we speak common languages—dollars and cents, as well as FORTRAN and C++."

But he added, "Please don't think not even for one nanosecond, that we will back off from direct competition with our own systems in the open marketplace."

Just before publicly signing the last document to cement their alliance, Apple and IBM invited four personal computer industry luminaries to the stage to add their comments on the occasion.

Jim Manzi, president, chairman, and chief executive of Lotus Development, was enthusiastic about the plan to integrate the Macintosh into corporate computing. This will benefit software developers and free computer users to concentrate on their work rather than on making their computers work together, he said.

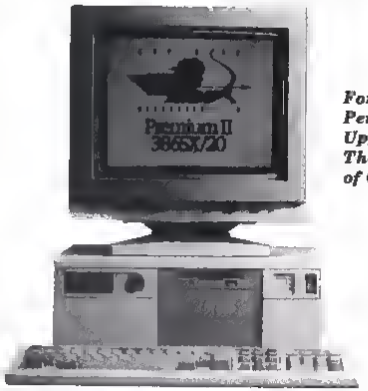
Philippe Kahn, chairman of Borland International, praised IBM's and Apple's support for object-oriented technology, which Borland has championed in the past.

Roy Noorda, president and chief executive of network operating system vendor Novell, said networking is "a natural basis for alliances" in the computer industry.

Some may have been surprised to see the fourth guest, Ron Whittier, vice-president of the software technology group at Intel. Whittier said nothing about the Power PC aspect of the Apple-IBM alliance, which seems to threaten Intel's position as the primary supplier of processor chips to IBM. But he said the two companies' investment in object-oriented systems and multimedia "will drive software and hardware into technology balance."

Contact: Christopher Escher, Apple 408-974-2202; Paul Bergevin, IBM 914-765-5630; Ken Phillips, Motorola 602-952-3637.

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DOS Advanced	November 29	December 20
dBase IV Level I	November 7, 26	December 17
Excel for Windows	November 13	December 30
Harvard Graphics	November 14	December 30
Intro to PC's	November 7	December 3
Lotus 123 Level I	November 4, 12, 22	December 2, 12, 18
Lotus 123 Level II	November 15, 21	December 9, 19
Lotus 123 Level III	November 25	December 31
Microsoft Word Level I	November 5	December 3
Microsoft Word Level II	November 20	December 10
Multimate Advantage	November 21	December 11
Novell System Administration	November 18 & 19	December 16 & 17
Pagemaker	November 4 & 5	December 5 & 6
Supercalc IV Level I	November 27	December 27
Symphony Level I	November 25	December 27
Windows	November 8	December 13
WordPerfect Level I	November 1, 8, 15	December 2, 13, 23
WordPerfect Level II	November 8, 18	December 4, 18
WordPerfect Graphics	November 12	December 31
Word for Windows	November 8	December 18
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IBM/Apple Stocks Down After Dive

NEW YORK, NEW YORK, OCT 7 (NB)—IBM and Apple stocks are still down and some Wall Street firms lowered the two companies' earnings estimates after the tumble IBM and Apple stocks took after the joint announcement by the two companies of a five-point program of cooperative plans.

IBM's stock, traded on the New York Stock Exchange, fell $1 $75 a share to $99 750. Apple's stock, traded on the over-the-counter market fell $1 50 a share to $48.25 on 1 4 million shares.

When asked why the fall in stock prices, a Merrill Lynch financial consultant in Los Angeles who asked not to be named, told Newsbytes the profit scenario doesn t look good for IBM or Apple in the short term. Eventually the merger will be very good for both companies, but the economy is coming in weaker than was originally expected, and the unmoored strategy is a long-term one.

The consultant told Newsbytes Merrill Lynch is looking more favorably at Apple's prospects than IBM's, especially since the announcement of PowerOpen, the newly planned Unix-based operating system for smaller reduced instruction set chip-based (RISC-based) computers will be Macintosh compatible. He quoted Merrill Lynch as saying "By obtaining IBM's blessing Apple adopted a brilliant strategy."

Two days after the announcement and one day after the drop in its stock, IBM announced price cuts on its Personal System/2 (PS/2) laptop line of computers and announced it will begin offering rebates and bundling several name-brand software packages with the desktop PS/2.

Despite the price cuts, Merrill Lynch has adjusted down its speculation on IBM's earnings, based on "a concern in revenues."

Also, conspicuously absent from any of the IBM/Apple joint announcements was any mention of DOS, or disk operating system, the operating system originally used by IBM for the IBM personal computer (PC). DOS is currently marketed by IBM as PC-DOS and by Microsoft as MS-DOS—the latest version being MS-DOS 5 0

Contact: Merrill Lynch Tel. 818/995-5600, Fax 818/995-5611

Apple Rumors Spur Market

BOSTON OCT 4 (NB)—It was volume that made the Apple Macintosh market this week. Coming on the heels of the rumors of model changes that are expected at Comdex, the buyers and sellers are shuffling hardware anticipating a change in the market. It's a little comical because until there are announcements, the market can't really decide what to do. There is more hardware in transit than there are prices in flux. The most important rumor is of the discontinuation of the Macintosh FX and its impending replacement at the top of the Macintosh line. This is leading people to buy the Macintosh CX hoping there will be an upgrade kit that makes a CX into the new top-of-the-line model. You see, it's all speculation that is based on what people think might occur.

Down in the market trenches, the Mac IIcx closed at $3300 which is stable, and the IIfx was trading in healthy volume at $5200. The only Mac to change in value was the Mac SE/30 with a 40 Meg drive which was up $25 to close the week at $1875. The volume leader was the Macintosh Classic with 40 Meg drive which was trading in strong volume at a stable price of $975. Mac Plus models were active, with the plain vanilla floppy models trading at $450. The most active prices were the Apples IIc down $250 to $250. When a machine loses HALF its value and the closing value is the same as the change—there isn't much of a market left. With the raft of MacModels and new models on the way, there aren't many folks who want to drive an Apple II era machine. The IIgs took a $100 loss and closed at $700. It's DONATION time for the Apple II era computers. Steve Jobs once said that the Apple II would live forever. And it seems that the dawning of the new IBM-Apple joint venture may be the death of the Apple II.

IBM and Apple: Is it Love or a Shotgun Wedding?

The business press was alive with talk of the IBM-Apple agreement. They call it a marriage, but one has to wonder if the meeting of the two giants of computers was the result of a love affair or forced upon them by the hundreds of competitors who are nipping at their markets. Apple needs to become part of the corporate computer community, and IBM needs to begin to do some fancy graphical user interface stuff or lose "the rest of us." The announcement had no impact on the secondary market since their plan is still years from the marketplace but in time we may be seeing a more unified, rational marketplace for computers. That would be a welcome event.

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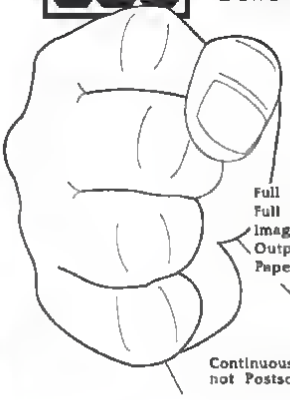
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Six Million Microsoft Windows Sold; MS Stock Down

SEATTLE, WASHINGTON, OCT 4 (NB)—Microsoft Corporation says sales of Windows 3.0 have gone over six million units, but its shares fell after news of a joint venture between International Business Machines (IBM) and Apple Computer was announced.

Microsoft said it sold about half as many copies of Windows in the first quarter of this year, which ended September 30, as it did in the product's entire first year. According to Brad Silverberg, VP of DOS and Windows, Microsoft believes that other software houses will develop applications for Windows "first and foremost." Industry analysts at International Data Corporation estimate that Microsoft will sell 7.6 million copies of Windows this year. Silverberg thinks sales will even exceed the IDC estimate. Silverberg also noted that 36 percent of personal computer applications sold in the first half of 1991 in Germany and France run under Windows.

Although it's too early to know what effect the Apple-IBM joint venture will have on Microsoft sales, some analysts are predicting that the Apple-IBM deal will spell trouble for Windows. Microsoft has said previously that it is putting its future in the hands of Windows. As recently as last week Nathan Myhrvold, VP of business development said, "We have a very clear strategy, which is Windows."

An upgrade to Windows, version 3.1, is in the second round of beta testing, and is expected later this year or early in 1992. The Apple-IBM announcement said that new technology would allow the previously incompatible PCs to work together.

Silverberg noted that IBM is a large buyer of Windows 3.0, for use with IBM personal computers in the educational and home markets. How long that source of sales will remain constant considering the Apple-IBM deal is not known yet. A number of hardware manufacturers have said they plan to build pen computers which support Microsoft Windows for Pen Computing.

Another possible factor in a future for Windows is a lawsuit presently being considered by the courts to determine if Microsoft Windows earlier technology violates an Apple copyright.

After reaching an all-time high of 90-1/2, Microsoft stock dropped 1-3/8 to 87-1/2 after the IBM-Apple announcement. A Microsoft spokesperson said the company was not aware of any reason for the stock decline. "There's nothing that's company-specific," he said.

Whether buyers will wait to see what comes out of the new marriage is uncertain, but it's possible that they could hold off on buying Windows either because of the possibility of getting something better from Apple-IBM, or because Windows NT (New Technology) is coming and they want to see what it looks like.

Lotus And Borland Copyright Case Moves On

WASHINGTON, DC, OCT 1 (NB)—The U.S. Department of Justice and the Copyright Office have joined in submitting an *amicus curie* or "friend of the court" brief in the ongoing copyright infringement case brought by Lotus Development against Borland International. The suit was brought by Lotus because the company claims that Borland's Quattro violated Lotus's copyrights on the way the Lotus 1-2-3 spreadsheet is operated.

The government agencies apparently came down hard on the side of Borland and against Lotus Development because they said in the brief that when program menus are "simply a listing of the particular commands that are available to the user of the computer" they are "not considered

Continued on page 28

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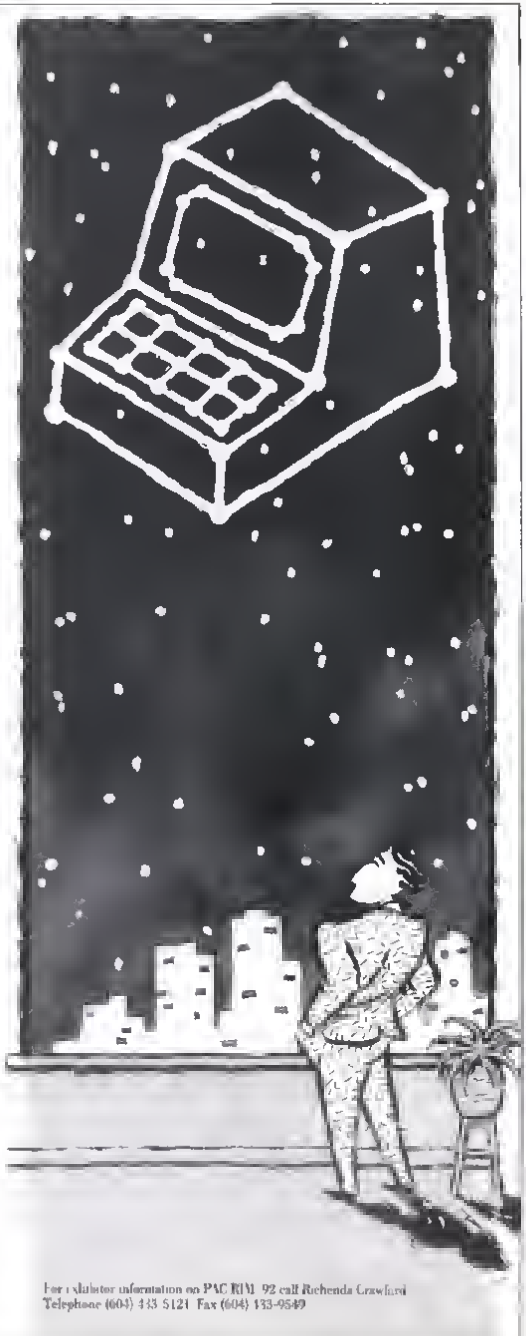
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Continued from page 27

copyrightable. The Copyright Office eschews the implication that all material displayed on (computer) screens is copyrightable."

Obviously pleased by the government's stand on the case, Borland, which has been urging the Copyright Office to state its views in the litigation, said in a press release, "We are delighted that the Register of Copyrights and the Department of Justice cared enough about our case to make their views known."

Partially on the basis of this apparent wholehearted support of its position, Borland has called for summary dismissal of the charges brought against it by Lotus Development.

In addition to calling for prompt dismissal of the Lotus action against it, Borland's papers also allege that Lotus deliberately concealed its objections to Quattro and Quattro Pro until after Borland had invested millions of dollars in research, development and marketing of both products.

The disposition of this case could have far-reaching significance both for Borland and other software publishers, including those with proprietary user interfaces, and those that wish to provide alternative applications but retain a familiar interface with established products such as Lotus 1-2-3.

Contact: Dick O'Donnell, Borland International, 408-439-1632.

ACE Chip, Computer, and Operating Systems Debut

WASHINGTON, D.C., OCT 2 (NB)—MIPS Computer Systems has now formally introduced its new R4000 microprocessor, a 64-bit computer chip which is intended, among other things, to run the powerful new operating systems envisioned by the ACE or Advanced Computing Environment consortium.

ACE includes Compaq, Microsoft, The Santa Cruz Operation, MIPS Computer Systems, and Digital Equipment among its more than 200 members.

Also participating in the introduction of the R4000 were several ACE developers, including Microsoft and SCO, which both demonstrated their new operating systems on prototype computers based on the R4000.

MIPS designed the R4000, said by the company to be the fastest single-chip microprocessor on the market, for production by five of the semiconductor partners which are members of ACE: Integrated Device Technology Inc., LSI Logic Corp., NEC Electronics Inc., Performance Semiconductor Corp., and Siemens Components Inc.

Intel, the world's leading producer of microprocessors, which bases its most popular chips on the MS-DOS compatible 80X86 family, is also a member of ACE and is developing its own microprocessor for the consortium.

LSI Logic has announced that it is already shipping the 50 megahertz LR4000, the company's own version of the new R4000 microprocessor which is based on RISC (reduced instruction set computer) technology, as opposed to the CISC (complex instruction set computer) microprocessors such as the Intel 80386 or the Motorola 68000 series, which are normally slower because they have many more valid programming commands built-in.

MIPS has also introduced a family of 20 developer products for the new R4000, tools needed for developers to produce software compatible with the new microprocessor, including a new C language compiler. C is the language that Unix itself is based on and is considered one of the most portable of languages, thus code written in C for other operating environments should be easy to transfer to the new R4000 environment.

MIPS also had a demonstration system running using its own version of Unix.

At the MIPS introduction, The Santa Cruz Operation demonstrated a prototype version of its SCO Open Desktop operating system for the R4000 and 32-bit R3000 MIPS microprocessors. The new operating system, developed under the ACE consortium, ports a standard Unix to run under both the MIPS and Intel ACE computers conforming to the ARC or advanced RISC computing systems.

SCO Open Desktop, which integrates the OSF(Open Software Foundation)/Motif graphical user interface and distributed processing network capabilities, is already available for Intel 80X86-based computers.

The long-awaited Microsoft Windows NT (New Technology) operating environment was also shown for the first time. Windows NT, which will also run on the 32-bit Intel 80X86 microprocessors, offers Windows and MS-DOS compatibility but is also designed to be the basis for a new operating environment which Intel is adopting to compete with the IBM OS/2 environment. This development effort is the major bone of contention that caused the recent rift between Microsoft and IBM.

Today's most advanced microcomputers normally rely on a 32-bit architecture, and it is not clear yet just what immediate advantages will be gained by moving to the 64-bit microprocessor developed by MIPS. Insiders suggest that for the next several years the most important microprocessors for even advanced personal computer users will remain the Intel family of 32-bit chips and the forthcoming E0586 microprocessor, with the MIPS R4000 having a major impact in the minicomputer or workstation field.

The main aim of ACE is to supply a series of platforms that will provide a range of computing power but will all be able to run the same software and the same operating systems (Windows NT and SCO's Open Desktop Unix).

Contact: Carleen LeVasseur, MIPS, 408-720-1700.



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Canadian Expert System Helps Design Highways

CALGARY ALBERTA, SEP 25 (NB)— The Province of Alberta is testing expert system technology that it hopes will improve the design of the province s highway intersections and interchanges.

The Alberta Research Council developed the Highway Intersection Design Expert System (HIDES) under contract to the province s transportation and utilities ministry Running on a DOS-based personal computer, it is based on a commercial expert system shell, said Jack Wilkinson business development specialist at the Alberta Research Council The system contains some 400 design rules.

The system is designed to automate and extend a bulky design manual that outlined the rules for designing highway interchanges in the province It is also meant to capture the knowledge of experienced highway designers, making that know-how available to others.

The ability to distribute knowledge is made more important by the fact that Alberta has spread much of its highway design effort across the province as part of an effort to decentralize some of its government functions.

The provincial government claims the system, which cost some C$58,000, could save the province as much as C$100,000 per year

Wilkinson said that while the project was meant strictly for the Alberta government, the Alberta Research Council could apply the experience gained in this project to developing similar systems for use elsewhere

Contact: Jack Wilkinson Alberta Research Council 403 297-2354 fax 403 275-3009

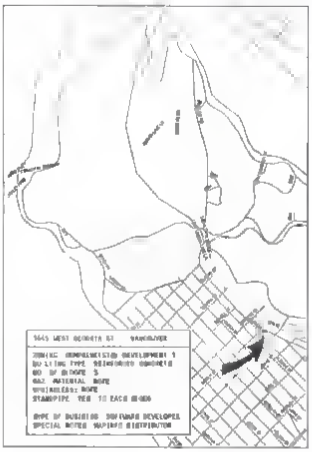
Canadian Technology In IBM's PCRadio

CALGARY ALBERTA, OCT 4 (NB)— Canadian cellular telephone manufacturer Novatel will build cellular components for PCRadio, IBM s mobile personal computer The technology was developed jointly by Novatel and IBM, an IBM spokesman said.

The PCRadio will also incorporate memory cards built at IBM Canada s own manufacturing plant in Toronto. IBM spokesman Stan Dzibbalis said the compact memory cards, about the size of a credit card but thicker, are the first of a new generation of components that will be used in other IBM products in the future Thus

Continued on page 30

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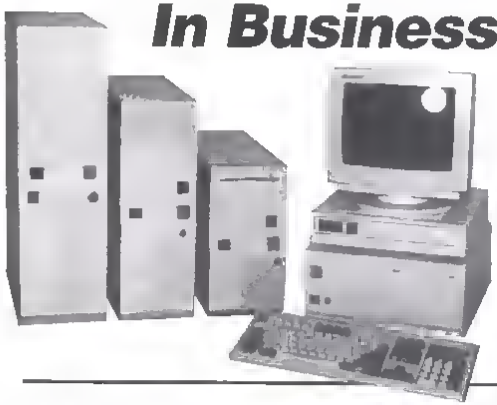
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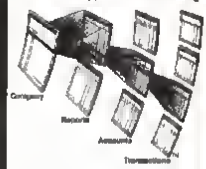
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NEWSBYTES

Continued from page 29

the mandate to build them is an important foot in the door for the Toronto plant, he added.

Working with IBM, Novatel has developed a radio-frequency data unit that consists of a cellular radio, a modem, and an antenna. Built into the PCRadio, it will let the mobile computer communicate with other machines without the need for a hard-wired connection.

Under a five-year contract, the data unit will be built at a Novatel factory in Lethbridge, Alberta, and exported to IBM plants in Charlotte, North Carolina and Greenock, Scotland. The two companies would not assign a dollar value to the contract, and Didzbalis said the number of units involved will depend on the success of the PCRadio.

Manufacturing the memory cards will not mean expansion or new hiring at the IBM Canada plant in Toronto. The new work will take up the slack as production of older products drops off, Didzbalis said.

Contact: Stan Didzbalis, IBM Canada, 416-474-3900, fax 416-474-3409. LaDawn Ally, Novatel 403 295-4548.

GENERAL

Low-Cost Laser Printer Due From Casio

TOKYO, JAPAN, OCT 3 (NB)—Office equipment maker Casio says that next year it will release a laser printer which costs about half that of current laser printers. With this low-cost laser printer, Casio expects to gain over 25 percent of the laser printer market share in Japan.

Casio's low-cost laser printer is expected to cost less than 100,000 yen ($740), which is about half the price of similar offerings from NEC or Canon. It will be an A4-size printing, slow speed printer, but it has Japanese fonts.

So far, Casio has successfully sold its B4-size laser printer to the corporate market. Its Page Press, which prints 12 pages per minute, costs 398,000 yen ($2,950). 12,000 units have been sold since the printer was released three months ago.

Casio is also planning to release a low-cost, mid-speed A4-size laser printer. Casio says it will be able to print A4-size paper at 12 to 15 pages per minute, and will cost about 150,000 yen ($1,100). Casio is expecting to grab 25 percent of total laser printer sales in Japan within two years, according to Casio's General Manager, Toyokazu Yamamoto.

Contact: Casio +81-3-3347-4830

HP Cuts Prices On IBM DeskJet, Mac DeskWriter Printers

PALO ALTO, CALIFORNIA, OCT 3 (NB)—Hewlett-Packard (HP) announced it is lowering the U.S. list price of its HP DeskJet 500 for the IBM personal computer (PC) platform and the HP DeskWriter printer for the Macintosh $130 from $729 to $599.

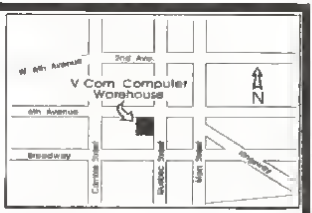
HP says these are the lowest prices it has ever offered on the two monochrome inkjet printers, both of which provide 300 dots-per-inch printing on plain paper. HP says both printers produce up to three pages per minute, use water-resistant ink, and include a three-year warranty.

A new black-ink print cartridge that HP says holds twice as much ink as its original cartridge is also available. The new cartridge retails for $51.95 and is good for 1,000 pages, compared to the original cartridge priced at $19.95 which prints 500 pages, HP said. More information is available by calling (800)752-0900.

Contact: Margaret Higgins, Hewlett-Packard, Tel 415/857-4819 Fax 415/857-7299



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The Enabled Computer—The On-Line World

WASHINGTON, D C., OCT 4 (NB)—One of the biggest lifestyle changes computers have made possible for many disabled users has been the way bulletin board systems (both public and private) both provide equal access for the disabled and, when desired, completely hide a person's disability.

The many advantages of having access to information apply almost equally to the disabled and non-disabled population. But for those who are confined to home or find it difficult to travel, being able to communicate electronically opens a new world in a way that people who can hop in a car to drive into town and walk into a library just can't imagine.

But the second big advantage, not showing the individual's disability, can be a powerful tonic for those who feel that people treat them differently because of their disabilities (as many unfortunately do).

Although it is obviously a real problem in many cases, sometimes this feeling of being treated differently is as much in the imagination as a reality.

If someone ignores you in person it may be because you stutter, or it may just be because he or she is impolite and ignores everyone. If other people treat you like a child just because you can't walk, then they may be patronizing you, or they may just be the way they are. I have an aunt who treated me like a five-year-old when I became wheelchair-bound for a year, but she always acted that way with everyone so I knew it wasn't just me.

But that sort of treatment can be a devastating experience to some, especially those teenage or older people who develop disabilities and are not born with them.

But, once connected to Ziffnet, GEnie, America Online or other computer systems, your disabilities disappear unless you tell people about them.

If you can't speak clearly or hear very well, a computer E-mail system doesn't know.

If you have motor control problems, those seeing your mis-typed messages have no way of knowing whether you are just another nontypist or have some disability.

I have even been reading online the laments of one individual who has great difficulty thinking and acting quickly. He was worried that people would ignore him because it takes him several days to digest a message and compose a reply (although when he has time to think, his replies are well thought-out). If he hadn't mentioned the problem in one of the handicapped forums, no one would ever have known because few people answer messages right away—no one knows whether you are thinking or just don't log on every day.

—John McCormick

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Roundup: Stories Carried By Other Media

WASHINGTON, D C., OCT 4 (NB)—Roundup is a brief look at some computer stories carried in other publications received here this past month.

In September 30's *Government Computer News*, one editor took backup program publishers at their word that their utilities were "bullet-proof" and tested several after perforating them with an M-1 rifle slug. Fastback Plus 2.01 actually recovered all the data from one disk, but the others, including Norton Backup and a later version of FB Plus failed.

September 30's *Telephony* focuses on the latest in fiber technology and a hybrid of asynchronous and synchronous networks.

The October '91 issue of *Computer Language* explores the creation of reusable objects.

The November *Macworld* examines networking with the Mac.

Byte is out with its yearly IBM Special Issue but for the first time in 10 years has dropped the IBM special and is just running an Extra Edition not devoted to IBM.

IEEE Spectrum for October looks at the new standards and new chips used in video compression.

October's *Lotus* magazine looks at 1-2-3 for the Macintosh.

EVENT

Here Comes the *Sun Expo*

VANCOUVER, B C., OCT 18 (TCP)—Being the number-one vendor of UNIX workstations has its advantages. Sun Microsystems now has more than 3,600 compatible third-party software and hardware products available for platforms running Solaris, the system software environment created by its subsidiary SunSoft, Inc.

Solaris, available on both Intel 80x86 and SPARC RISC platforms, is being touted as the industry's first shrink-wrapped distributed computing environment. Developers can release applications for both of the industry's highest-volume multivendor platforms with one port for both markets.

To this end, Sun and its partners are hosting a hardware and software showcase dubbed "Solutions Expo." Shaping up to be the largest gathering ever of Sun-related companies in Western Canada, it's happening November 19-20, 1991 at the Vancouver Trade & Convention Centre. (See the advertisement this issue for a $10 admission discount coupon. *—Ed.*)

Contact: Sun Solutions Expo, call collect: 416/581-8797, Sun Microsystems of Canada 604/684-4120

What Next, Bill?

by John McCormack

WASHINGTON, D.C., OCT 4 (NB)—We are living through a most amazing time in the computer industry, one every bit as momentous as the one that started just ten years ago when IBM introduced the PC.

Apple and IBM are being buddy-buddy, while Microsoft and Big Blue are feuding in an unprecedented way that could leave one or the other with a big hole in its bottom line by this time next year.

Let's review briefly.

With the massive success of Windows, Microsoft has essentially dumped its OS/2 effort and, faced with the situation that Microsoft would probably compete directly against OS/2 with its NT operating environment, IBM started to cozy up to long-time foe Apple and that company wisely came in from the cold. But Big Blue is also talking with perennial also-ran Microsoft competitor Digital Research.

Is even Microsoft big enough to stand against Big Blue's army of loyal users and marketers, especially with an inferior product such as MS-DOS in what is to most users a commodity market?

Putting aside the question of whether Microsoft has a better vision of the future, we need only look to the history of the microcomputer to learn that, while IBM has had notable failures, it is clear that IBM has created most standards that exist in the microcomputer world today.

Every other computer company loves to bash IBM as being slow to innovate, but if you check closely you will notice that--except for Apple (which has a small portion of the total PC market share), all of them use graphics, operating system, and bus standards chosen or even invented long ago by IBM.

While you may not like 5.25-inch or 3.5-inch floppy drives as a standard, you would be burying your head in the sand if you don't admit that we have them because IBM wanted them.

Likewise for CGA, VGA, and other graphics standards developed at IBM. Sure, I know about Hercules, but how often do people buy Hercules-only graphics boards these days?

Even the architecture of today's computers was determined by IBM, first with the PC but now significantly known as "industry standard architecture," then with Micro Channel. Even the EISA or Extended Industry Standard Architecture bus is based on the original PC bus.

Now we come to the question of whether it is a good idea to back IBM. Quick--name three companies that have gotten rich by going against the Big Blue tide.

Did you slow down after Apple?

The question before us now is whether Microsoft is making a wise decision by goading IBM into looking to Microsoft's only real competitor at a time when basic operating systems are widely recognized by most users as being commodity items.

It isn't difficult to understand why, despite its obvious advantages, DR DOS never made it really big in the market. IBM chose MS-DOS, and that was all most users needed to know.

Skip ahead 10 years.

Has Bill Gates decided that this is the time for Redmond to secede? And, if he has, is it a wise move?

Or did IBM make a major error by insisting that its version of OS/2 be the first to market because of the installed AT base?

We all know that Microsoft's vision of OS/2 as an operating system that would perform wonders on 32-bit machines had it all over IBM's 286-compatible OS/2 which finally hit the market, but IBM practically made Microsoft when it struck a deal with Mr. Gates to supply the operating system for its PC.

At the same time IBM nearly destroyed Digital Research's chance to make it big because although DR had brought the previously standard CP/M (Control Program/Microcomputers) to the grand breakfast of the PC world, IBM struck a deal for its PC operating system with Bill Gates instead of Gary Kildall.

Big Blue didn't do it maliciously; it is just the sort of thing that can happen to you when you live in a small room with a 600-pound gorilla.

Now IBM is apparently pretty upset with Microsoft, and, most significantly, has a clear alternative to MS-DOS. What happens over the next year should prove very interesting.

Today Monterey, California-based DR with a better operating system than Microsoft and a fully compatible one to boot, now has about 300 employees and grosses less than $50 million a year.

Founded at about the same time, Microsoft pulls in well over $1 billion each year and has more than 20 times as many employees.

Mr. Gates' renowned marketing ability might account for the entire difference, but is anyone willing to say that teaming up with IBM 10 years ago had nothing to do with his company's growth?

But all elephants appear the same size to us mice and, just to keep things in perspective, it is important to remember that, while the two software companies have been around for as long as the personal computer industry, about 16 years, and Big Blue didn't enter that field until 10 years ago, Microsoft, for all its size, is not in IBM's league.

A billion-dollar gross is very impressive, but IBM's yearly income is nearly 70 times Microsoft's.

Despite the odds stacked in favor of Big Blue, I am not interested in betting against Mr. Gates becoming the CEO of IBM before the decade is finished.

Bill Gates has been the true *wunderkind* of the computer industry for many years now, and I just want to sit back and watch how he arranges to buy IBM. ❐



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IBM Cuts Prices, Intros Midrange, Buys Metaphor

PURCHASE, NEW YORK, OCT 4 (NB)—IBM issued several major announcements yesterday—it has completed the purchase of Metaphor Computer Systems, has cut prices on its PS/2 L40 SX laptop computer by over 23 percent, and has introduced the RISC-based POWERstation/POWERserver 530H deskside workstation.

IBM says that Metaphor's shareholders have approved the purchase of Metaphor and that it it now a wholly owned IBM subsidiary. IBM is saying that Metaphor employees who were assigned to the Patriot Partners joint venture established by IBM and Metaphor in September 1990 will be offered positions with Taligent, the new object-oriented systems software company, or Kaleida, the new multimedia joint venture with Apple. IBM says. Or they can stay with the company.

Meanwhile, in an attempt to beef up sales of PS/2 computers, IBM is offering four software programs free with buyers of certain PS/2 models. This "10th Anniversary Special" promotion, which runs through Dec. 31, sees IBM offering with Models 30 through 55, the following software packages free: Quicken Financial Pack for financial management, LotusWorks, an integrated program offering database, spreadsheet, graphics, telecommunications, and word processing; Express Publisher for desktop publishing, and Turbo Tax, a tax preparation program.

IBM also is offering a $150 rebate on the purchase of a PS/2 Model 35 and a $200 rebate on the purchase of a PS/2 Model 40 when IBM DOS or OS/2 is purchased along with the computer.

IBM has also cut prices on its PS/2 L40 SX laptop computer and some options for the system. The laptop sells now for $3,995 when previously it was $5,245.

Finally, IBM announced the Powerstation/Powerserver 530H, a new deskside model in its RISC System/6000 line. The new system is available as a workstation or server and is said to offer 52 percent more processing power compared to the existing model 550 and enhanced disk storage capability. It offers a 55 megahertz processor, 32 megabytes (MB) of high-speed memory, and a 400 MB, higher-performing disk drive standard. The system can accommodate a maximum of 512 MB of memory and a maximum of 2.5 gigabytes (GB) of internal disk storage. Up to 25.0 GB of external disk storage can be supported. IBM says the 530H performs at 20 megaflops, with a SPECmark rating of 57.4.

The base price—which includes system unit, standard 32 MB of memory and 400 MB of disk storage—is $31,500, with an entry-level configured server starting at about $36,000.

Contact: Judy Radlinsky 914-642-4634.

IBM Adds New PS/1 Models

WHITE PLAINS, NEW YORK, OCT 7 (NB)—Responding to the market's call for more power and expansion options than the original version offered, IBM has expanded its Personal System/1 product line with two models based on the Intel 80386SX processor. IBM also said that by next spring it will offer an 80386SX-based unit that will come with Operating System/2 Version 2.0 already installed.

IBM said the new systems address a broader marketplace than the original PS/1, including both small businesses and the advanced computing requirements of second-time buyers.

Both new models use a 16-megahertz 386SX chip and come with two megabytes of memory, expandable to six megabytes on the motherboard. A 12-inch color VGA display, mouse, built-in 2,400-bit-per-second modem and DOS 4.01 operating system are also standard. Like earlier PS/1 models the new units come with a free three-month subscription to the Prodigy online service as well as access to Quantum's Promenade online service and the PS/1 Club online customer support service.

The most powerful addition to the PS/1 line, the PS/1 386 SX B82, has an 80-megabyte hard disk drive, two full-size AT bus (Industry Standard Architecture) expansion slots and comes with Microsoft Windows 3.0 and Productivity Pack for Windows customized for the PS/1. The system can hold a second hard disk drive, and a 129-megabyte drive is now available, bringing total potential storage to about 200 megabytes.

The PS/1 386 SX C42 has a 40-megabyte hard disk drive. It does not offer the expansion slots found in the B82 model.

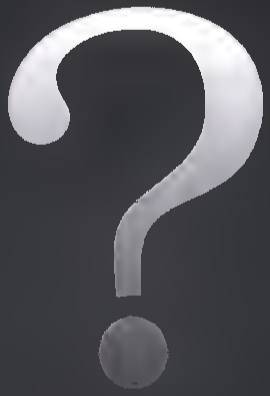
The PS/1 386 SX C42 is priced at US$1,600, while the B82 model is priced at US$2,100. A four-megabyte memory expansion card which fits both systems is available for US$549. The 80-megabyte hard drive is available separately for US$1,060, and the 129-megabyte unit goes for US$1,500.

IBM said it will also upgrade older PS/1 286 C34 and M34 models to the 386 SX B82 model for US$845 if customers return their old system units, or US$1,045 if they keep the old units. IBM also extended the upgrade offer to owners of certain Apple and Compaq PCs.

IBM also said it has doubled the number of outlets selling the PS/1 in its first year of availability. Some 4,000 retail outlets across the United States now sell the PS/1, IBM said. The machine is available in more than 45 countries in 17 languages, IBM added.

Contact: J. Christopher Clough, IBM, 914-642-5372; Sheila Shanahan, IBM, 914-642-5407.





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New PS/1 Aimed At Wider Audience

WHITE PLAINS, NEW YORK, OCT 9 (NB)—The introduction of the new models of the IBM PS/1 is evidence of IBM's willingness to respond to user feedback, a senior IBM executive told Newsbytes.

Newsbytes questioned the executive, speaking under condition of anonymity, on the occasion of the announcement of 286 SX models of the PS/1.

He was specifically asked whether the expansion of the PS/1 line to include models that can run Windows and OS/2 is consistent with the PS/1's position as a "home computer." He replied, "The only thing that seems strange about the new models is the PS/1 logo on them. We originally saw the PS/1 as filling only a certain home computer niche but many of our customers obviously wanted to use it for business applications that require more power than our original version provided for. You'll note that our announcement of the new models specifically mentions 'small businesses.' The new 286 SX models provide substantial performance at a very attractive price and certainly widen the PS/1 line to include these users."

One of the new models, containing an 80 megabyte (MB) fixed drive and a color VGA monitor, comes with Microsoft Windows pre-installed (in addition to Microsoft Works and access programs for the Prodigy and Promenade on-line services that have been a standard feature of the PS/1), and has a suggested retail price of $2,199. The other model introduced is also 286-based, has a 40 MB hard disk, a monochrome monitor, and does not include Windows. It has a suggested retail price of $1699.

IBM spokesperson Sheila Shanahan told Newsbytes that third-party resellers have said that they would expect to see 'street prices' for the units come in as low as $1,899 for the high-end unit and $1,599 for the other one, and that "they feel there will be a tremendous demand at prices like that." Shanahan also said that the model announced for Spring 1992 that is to be pre-loaded with OS/2 will have a minimum of 4 MB of RAM and 80 MB fixed disk. She added that the "pricing and actual configuration have not yet been determined."

The senior IBM Newsbytes source, commenting on the forthcoming machine, said, "It's no surprise that we would begin pre-loading OS/2 on our systems. It is just a surprise to most that we began with the PS/1."

Contact: J Christopher Clough, IBM 914-642 5372

Dell Computer Intros More 486-based Systems

AUSTIN, TEXAS, SEP 25 (NB)—Hot on the heels of its announcement that it is cutting the price of many of its systems, Dell Computer has announced three new Intel 80486-based desktop systems.

The new units, with prices starting at $2,799, feature processor upgrading capability. Dell says the new units will start shipping next month and include one model based on Intel's i486SX 25-megahertz chip, which was announced this month. Dell now offers 14 upgradable systems.

The new "D" series models include the 486D/20, the 486D/25, and the 466D/33. Under Dell's model designation system, the 490 refers to the processor chip, and the number after the slash reflects the clock speed of the unit. Each system can be upgraded to a faster processing speed through plug-in microprocessor upgrade kits.

The new systems all come with 512 kilobytes (KB) of video random access memory (VRAM) and a VGA 1024 by 768 resolution display with 16 colors. An upgrade kit is available that adds another 512 KB of VRAM and will support up to 32,768 colors in a 640 by 480 resolution. The video memory upgrade also offers non-interlaced 1024 by 768 resolution with 256 colors and provides 32-bit video memory access.

Dell Computer operates a toll free number (800-289 3355) for product inquiries.

Contact: Lisa Rohlf, Dell Computer, 512 343-3782

Microsoft Intros New MS-DOS 5.0 Support

REDMOND, WASHINGTON, OCT 8 (NB)—Microsoft has announced a new 24-hour support service for the more than one million users of MS-DOS 5.0, called FaxTips.

Users can call FaxTip at 206-646-5103 for answers to common questions about installing, optimizing and using the upgrade. Users can also select the way they get the answers to their questions, facsimile, US postal service or listening to pre-

Continued on page 38

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Continued from page 36

recorded messages. The service is free, except for long distance charges.

"Offering FastTips to MS-DOS 5.0 upgrade customers means convenience—information when they want it and how they want it," said Patsy Stonemeier, general manager of product support services at Microsoft.

In addition to the automated service, Microsoft says it has 85 product support technicians to handle support calls from upgrade users.

In addition to FastTips, DOS 5.0 upgrade customers can get personal assistance from Microsoft at no charge during the first 90 days of purchase. Customers who purchased MS-DOS 5.0, whether it came with their new computer or another source, can call 800-696-9000 for personal assistance.

Contact: Cathy Licht, Microsoft, 206-882-8080 FAX 206-883-8101, Telex 160520

New For PC: DacEasy Version 4.2

DALLAS, TEXAS, OCT 4 (NB)—DacEasy has released version 4.2 of its accounting package DacEasy. The company is also offering a reduced-cost upgrade or switch program.

The company says new features of DacEasy Accounting include improved inventory handling, including the handling of negative balance-on-hand for drop-shipping, and pre-billing. Also improved is the report generator, adding a date field in the report headers, and adding footers to reports.

Other new features include the ability to clear all checks within a user-specified date range, support for laser printer forms and laser checks which the company has available, and support for report printing on 132-column paper. Users can now select a specific bank account and range for cash reporting and information can be retained after posting.

Release 4.2 handles posting of cash transactions in either detail or summary, and the user can now select invoice and purchase order numbers. DacEasy also says it has improved the manual, which now lays flat when open. Another change is the ability to make entries in DacEasy Payroll 4.2 from Accounting 4.2, and several new, useful fields have been added to the payroll employee data screens.

Under DacEasy's upgrade or switch program, owners of earlier versions of DacEasy Accounting can upgrade to release 4.2 for $49.95 through local retailers. Owners of other accounting and financial software programs can purchase DacEasy Accounting Version 4.2 for $49.95 making their purchase through a local retail outlet if they presently own an accounting, personal finance, or spreadsheet package. Trading up or trading in will require that you submit the title page from your current manual, or the DacEasy serial number. DacEasy is initiating a nationwide advertising campaign this month for its upgrade or switch program.

DacEasy maintains a toll-free number for dealer service (800-222-8778). The company says it will be showing new products at Comdex in Las Vegas, which runs October 21 - 25 this year, including a new entry-level double entry system for both Windows and DOS environments with a retail price of $49.95. The company says it will also preview a modifiable, modular accounting system, and a new low-cost LAN system for Windows or DOS.

Contact: Susan Morrow, DacEasy Inc, 214-248-0305 FAX 214-250-3752

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Corel Draw V3.0	$535	PC Tools V7.0	$125
DacEasy Accounting	$149	QDOS III	$49
Direct Access	$75	Quicken 386	$59
Lotus 1-2-3 V2.3	$395	QRAM 386	$39
Lotus 1-2-3 V3.0	$539	Quattro Pro V3.0	$279
Lotus 1-2-3 V3.1+	$475	Quicken V4.0	$49
Lotus 1-2-3 for Microsoft	$475	Scholastic Pack	$149
Microsoft DOS 4.01	$69	Software Carousel	$39
Microsoft DOS 5.0	$89	Suzy V3.0	$39
Microsoft Word V5.0	$395	Microsoft 5.0	$69
Microsoft Works	$195	Word For Microsoft	$395
Norton Backup	$89	WordPerfect V5.1	$275

NEWSBYTES

Industry Standard Launches Era Of Multimedia Computing



NEW YORK, NEW YORK, OCT 9 (NB)—At a lavish October 7th confecence and exhibition at New Yock City s American Museum of Natural History the Mulumedia PC Mackering Council introduced what Miccosoft Cholcman Bill Gotes, In his oddcess, colled. "the launching of multimedia personal computing."

The four-hour event, called "Multimedia PC," was a product of the Multmedia PC Marketing Council, founded in May of 1991 as a subsidiary of the Software Publishing Association The council, composed of CompuAdd, Cceative Labt Fujitsu, Headland Technology/Video Seven, Micconoft NCR, NEC Technologies, Olivetti, Philipt Consumec Electronics, Tandy and Zenith Data Systems, has agreed on what it refers to as "a widely accepted Industcy standdod fnc multimedio computing " It fucthec ceferred to the standard as one which "allows millions of existng PCs to be easily upgraded with the CD ROM drive, sound board, and software required for multimedia use."

The Multimedia PC Marketng Council hos upon developing the multimedia standard, developed o trademarked logo to be affixed to producti that odhere to the standard. Additonally. It has trademarked n slogan—"Bring the World to Your Senses"—for the use of the Multimedia PC event and other promotions of multimedia functions

Multimedia PC was keynoted by Scotish scientist James Burke who referred to the odvent of multimedio computing os a "codical Information surge " He traced similar surges in the past, saying that each such surge—foc exnmple, the definition of the first alphabet and the development of the printing press—introduced n change of noture thot revolutionized the way things were done

He said that the multimedia computing, which he ceferred to at the neot surge in information "will make everything before it look like solitary confinement."

Stading that "the next surge will tie multimedias computing with high speed global communications netwocks," Burke said that this combinaution will change the way we cegacd countriet and the human race in general. "When we have a manager in Boise Idaho running a meatpacking plant in Argentina with software uploaded from the network by a Korean firm to fit the requiremens of an accountant in Kuwait, it becomes difficult to ottoch the same importonce to notional houndarses or nateress," he said.

The profound diffecence hetween today's computing sad that of the future, as Burke sees it, is that multimedia computing will simply provide the user with o "window into information People will have free and unlimited occess to information and the knowledge gained will provide power to all of the users."

Burke went on to enumerate the massive changes that he envisont based on the new technologies saying thot he thinks thot through these means, we will be able to, for

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Quantum 52 Mb IDE Hard Drive, 17 Ms.	$ 250	Sound Blaster	$ 175
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NEWSBYTES

Multimedia PC *Cont. from page 39*

the first time "bring into the collective knowledge of 5.5 billion minds and thousands of cultures."

Microsoft Chairman Bill Gates followed Burke to the podium to say that: "The elements are now ready to come together to provide the start of a new industry—multimedia software."

Gates demonstrated a multimedia tour of the museum complete with text, graphics, sound and video which had been put together by Microsoft's multimedia department in the "space of one week." He explained that the developers purchased museum postcards, recorded sound, added graphics and text to produce the final product.

He said that the development of multimedia tools that allowed such things as sound objects to be moved from program to program allowed such rapid development. "The multimedia developer does not have to understand the complexities of processing of digitized sound to use these tools," he said.

In Gates example the user "copied and pasted" a sound into the Word for Windows word processor and then was able to play it at any time by the mouse clicking of a microphone icon.

Gates went on to say that the challenge of multimedia computing will be to determine which "titles" are proper for development. He said "The industry must develop standards and tools and then users will develop the important titles to be produced."

After citing American Airlines' multimedia support for its airline mechanics and Sandoz Pharmaceutical's Medical Education system as examples of important uses of the new technology, Gates said, "The reason we call today the official beginning of multimedia computing is that we now have standards in place and 60 actual titles from a wide range of vendors to show. To bring multimedia computing into the mainstream, we had to have the proper technology, standards and commitment of vendors. Today's demonstrations shows that all of these elements are in place."

Gates then introduced Tandy Corporation's Mike Grubbs, chairman of the Multimedia PC Marketing Council. Grubbs traced the history of the council and explained the use of the logo. He said that the Multimedia PC is a standard PC (10 MHz Intel 80286-based system or higher with VGA monitor) that additionally has audio, a CD-ROM and Microsoft Windows with Multimedia enhancements. Grubbs said that the hardware members of the council will provide both complete "out-of-the-box multimedia PCs" and multimedia upgrades to existing PCs.

After Grubbs presentation, nine selected vendors described and demonstrated multimedia products and then the audience was directed to a large hall where the 60 products were being distributed. Among those demonstrating in this portion of the program were Autodesk, First Byte, Corel, Owl International, Asymetrix, Software Publishing Corporation, Aldus, Hewlett-Packard, The Hypermedia Group, Authorware and Sierra Online.

Tay Vaughn, senior partner, The HyperMedia Group told Newsbytes that he feels that the most important aspect of the day is the evidence that "the industry has finally gotten serious about integrating sound animation and graphics and it is good to see competitors put aside animosities and sit down at the standards table for the benefit of users."

GeoWorks Ties With Borland To Bundle Quattro Pro SE

BERKELEY, CALIFORNIA, OCT 10 (NB)—Geoworks, developers of a graphical user interface for low-end computers, and Borland have announced the Borland Quattro Pro SE spreadsheet is to be integrated into the GeoWorks Pro to upgrade the GeoWorks Ensemble.

GeoWorks runs on an XT (or higher) in 640 kilobytes of random access memory (RAM), GeoWorks said, and 300,000 copies have been sold since its introduction nine month ago.

Quattro Pro SE is a spreadsheet product designed to work on low-end machines as well, Borland said.

GeoWorks Pro, the newest edition of GeoWorks, adds Borland's Quattro Pro SE spreadsheet to the following applications already available in the package: GeoWrite, a word processing package, GeoDraw an object-oriented drawing tools package, GeoComm, a telecommunications application, and GeoManager, a file and personal information manager. The suggested retail price of the new GeoWorks Pro package is $199.99, Borland and GeoWorks said.

A new Viewer allows users to remain inside the GeoWorks Pro environment while working with spreadsheet files and charts created with Quattro Pro SE, the companies said. Users can then cut, copy and paste, or drag and drop a Quattro Pro spreadsheet or chart directly into GeoWrite or GeoDraw where it can be sized and/or edited and included as a report or presentation, GeoWorks said.

The marriage of Quattro Pro SE with GeoWorks is bringing significant enhancements to GeoWorks Pro, Borland said, including support for Novell, LANtastic and other networks for printing and sharing files over a local area network (LAN), support for MS-DOS 5.0 and integrated task switching support for DR DOS 6.0 from Digital Research. Also, an intermediate level of GeoWorks Scalable User Interface for simplified management of user documents will be available.

Though printing on dot matrix printers has been impressive in GeoWorks, laser printing has been very slow, a representative of GeoWorks said. However, accelerated printing that is 8 to 10 times faster on Hewlett-Packard LaserJet and compatible printers will be added by the Quattro Pro addition, Borland added.

Brian Dougherty, chief executive officer of GeoWorks, said, "GeoWorks Pro users can

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Continued from page 40

now easily combine the spreadsheet and presentation power of Quattro Pro SE with the seven existing applications in the GeoWorks environment. The result is an unparalleled level of performance and functionality for the entire installed base of PCs—from XTs to 486s—at an unbeatable price point.'

The GeoWorks Pro product is anticipated to be on the retail shelves by mid-November the two companies said.

Contact: Tom Breunig, Miller Communications Tel 617/536-0470 Fax 617/536-2772 Lee Llevano GeoWorks, Tel. 408/429-4704 Catharine Miller Borland, Tel 415/644-0883

New For PC: Lotus 1-2-3 V1.1 For OS/2

CAMBRIDGE, MASSACHUSETTS, OCT 10 (NB)—Lotus Development Corp. has announced the introduction of Release 1.1 of Lotus 1-2-3 for OS/2 an update to 1-2-3/G, the graphical version of 1-2-3 designed for the OS/2 and Presentation Manager personal computer operating system.

In its announcement, Lotus said that it will ship Standard, Server, and Node Editions of the product within 30 days. The suggested retail price of the various editions will be $695, $995 and $695, respectively. Existing customers who purchase or have purchased a version of 1-2-3 on or after April 1, 1991, are eligible to upgrade to 1-2-3 for OS/2 Release 1.1 for a suggested retail price of $49. All other current 1-2-3 users can upgrade to 1-2-3 for OS/2 for a suggested retail price of $150.

Announcing the new version, Jeffrey Bell Lotus director of product marketing for spreadsheets, said, 'Customers have told us that OS/2 applications play a significant role in their business, and that they require the latest spreadsheet technologies, as well as the ability to build custom applications. 1-2-3 for OS/2 satisfies these needs by providing OS/2 users with industry-leading analytical tools, as well as the familiarity of Lotus 1-2-3."

Contact: Kimberly Twist, Lotus Development Corp, 617-693-8289-5372

IBM Canada, Rogers Cable Study High-Speed Networking

TORONTO, ONTARIO, OCT 4 (NB)—IBM Canada and Rogers Cable, a major Canadian operator of cable television services, have announced a joint study of high-speed networking technologies. The broadband, integrated services the two companies are exploring could transport text, image, voice, and multimedia information.

The major promise of the technology lies in multimedia, IBM spokesman Stan Drabkin told Newsbytes. But he said it is too early to know where the study might lead or whether it could result in a commercial joint venture between the companies.

The project will use IBM's PARIS, a fast packet-switching networking technology that can move data, voice, and video over optical fiber at speeds up to one gigabit per second.

Rogers Cable will provide the fiber-optic links connecting sites in Metropolitan Toronto. The companies will test a variety of applications, including videoconferencing and high-speed links among local-area networks in different locations.

Two other companies will participate. Rogers Cantel is Canada's national cellular telephone service provider; and Unitel Communications is a data communications carrier. Both are partly owned by Rogers Communications, the parent company of Rogers Cable.

Contact: Stan Drabkin, IBM Canada 416-474-3900, fax 416-474-3409, Joe Boutros Rogers Cable, 416-442-2850.

New For Unix: Primeservice Netware For SPARC Computers

LAS VEGAS, NEVADA, OCT 3 (NB)—A division of Prime computer has announced this week that it will make available a software product that will allow SPARC-based machines to be both servers and clients within Novell networks.

The PrimeService business unit of Prime Computer has been in the business of providing services and systems to many of Prime's customers worldwide. They have noticed an increasing need for having Novell NetWare capability on machines other than the ones that Novell is currently supporting. As a result of a contractual agreement between PrimeService and Novell, PrimeService has been providing version of NetWare (known as Portable NetWare until now) for Unix based machines. This relationship has been in place since late 1988.

Portable NetWare for Unix has been shipping since July of 1990. This week's announcement marks the debut of Connection NetWare for SPARC systems. Connection is a trademark of Prime Computer. Users who have this package can now integrate their SPARC-based computers (most of which are made by Sun) that are running Unix into their Novell NetWare network. The SPARC machine can act as either a server on the network or as a client. The SPARC machines are completely integrated into the network so that no user has to do anything special to use resources that are attached to the SPARC-based machines.

This version of Connection NetWare is based on NetWare version 3.01, which is the latest version for which source code has been made available to PrimeService. PrimeService intends to offer a version of Connection NetWare that corresponds to the currently shipping NetWare 3.11 as soon as it gets access to the code and modifies it.

Continued on page 42

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In addition to the standard set of Novell-supplied services, PrimeService has enhanced the product with the addition of several mail gateways. Present in this release are gateways between Mail Handling Service (MHS) and X.400 mail systems as well as Simple Mail Transfer Protocol (SMTP). There are also gateways between an SPX/IPX to a TCP/IP system. Additional enhancements include a centralized file backup facility and a network management utility.

Connection NetWare will be shown in the Prime booth at the NetWorld show. It is supposed to begin shipping in December. Pricing for Connection NetWare has not been established at this time.

Contact: Carolyn Lisle, PrimeService, 508-620-2800 ext. 5018.

First Multimedia E-mail App. Demonstrated

SAN JOSE, CALIFORNIA, OCT 8 (NB)—Innosoft International said it has developed the first multimedia electronic mail (e-mail) application. Demonstrated at InterOp '91 in San Jose this month, the new multimedia mail application has been created to work with Innosoft's E-mail gateway for Digital Equipment Corporation (DEC) users called PMDF, Innosoft said. PDMF uses the VAX/VMS platform rather than Unix, however. It can use PMDF's multi-protocol capabilities to support other platforms including Unix, DOS, and Macintosh, Innosoft said.

The new application transmits images, sound, and text over the Internet, Innosoft said. The planned demonstration is based on extensions to the 822 E-mail standard "Mechanisms for Specifying and Describing the Format of Internet Message Bodies," the company said.

The beta test version is to be demonstrated at InterOp '91 over TCP/IP between VMS Mail with the PMDF multimedia mail agent and another workstation running All-In-1 Mail, the company said.

PMDF is currently sold on an annual subscription basis and is $960 per machine for the first bundle and $480 for each additional bundle, Innosoft said. More information is available from Innosoft at (714)624-7907.

Contact: Stormy Burns, Innosoft, Tel: 714/624-7907 Fax: 714/621-5319

PC-Xview Links Windows PCs to X Window Systems

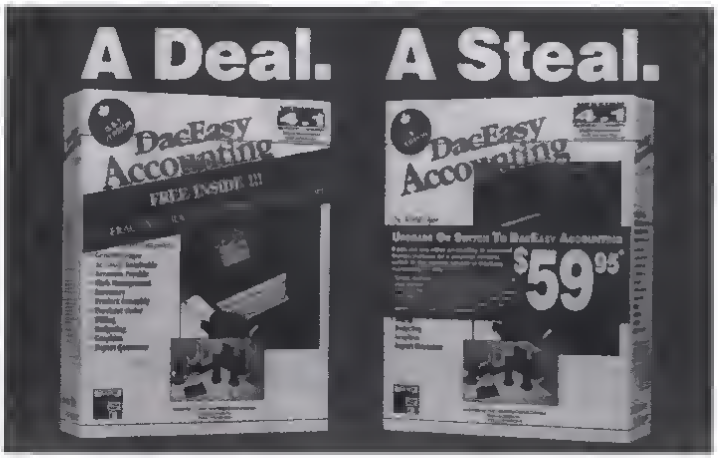
BEAVERTON, OREGON, OCT 9 (NB)—Computer graphics connectivity specialist Spectragraphics Corporation has introduced PC-Xview for Windows, a system for linking PCs to networked X Window systems.

Using PC-Xview, Windows users can display multiple X Windows System applications alongside local Windows applications and switch back and forth between the two. Since PC-Xview for Windows is fully integrated with Windows, users can cut and paste between the two environments. PC-Xview provides a graphical interface to multiple hosts simultaneously, including Unix, AIX, and VMS using networking products such as Novell's LAN WorkPlace for DOS, Sun's PC-NFS, and FTP's PC/TCP.

Spectragraphics says PC-Xview for Windows will be supported by its existing technical support organization, which includes a team of field specialists, as well as home office support technicians and engineers. The company has over 20 offices around the world.

According to John Morehead, general manager of GSS Personal Graphics Division which is the Spectragraphics subsidiary responsible for PC-Xview for Windows, the product brings together the dominant graphics standards in PCs and Unix. PC-Xview for Windows is scheduled to start shipping in late October, with a US list price of $445.

Contact: Eileen Stroud, Spectragraphics, 503-641-2200. FAX 503-690-9297



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PORTABLES

Compaq Computer Announces Color Portable

HOUSTON, TEXAS, OCT 7 (NB)—Compaq Computer today announced a 33 megahertz 486 color display portable personal computer. Shipments are scheduled to begin later this quarter.

Dubbed the Compaq Portable 486c Personal Computer, the EISA-based AC-powered unit features what Compaq says is its first implementation of Thin Film Transistor (TFT) active matrix technology. The company says TFT, combined with a hot cathode backlit display panel and the advanced graphics system enables the color VGA to provide high contrast color, screen response in less than 50 milliseconds, and a large selection of colors. The unit can access a palette of over 4,000 colors in 640 X 480 resolution, 250 of which can be used simultaneously. Compaq says the display is as easy to read as desktop computer color monitors, with similar brightness, color depth and viewing range.

According to Rod Canion, Compaq president and CEO, the Compaq Portable 486c represents a new generation of AC-powered portable PCs. Says Canion, "No other color portable in its class offers this level of performance, color capabilities and features in such a small lightweight design to meet the needs of today's most demanding customers."

The new unit is available in two models, each with four megabytes of system memory standard. RAM can be expanded to 32

Continued on page 43



megabytes. Also included are a 3.5-inch, 1.44-megabyte floppy drive, a 101-key detachable keyboard with programmable function keys and a numeric keypad, Multilock security, and a one-year worldwide warranty. The cursor keys are arranged in an inverted "T" shape.

Canion says the new portable is ideal for architects, engineers, and software developers who use CAD (computer-aided design) and CAE (computer-aided engineering), database management, financial modeling and complex demonstration applications. The company is also touting the unit as an ideal LAN unit.

The 486c can be configured with a 210 megabyte hard drive or a 120MB unit. The 210-megabyte drive has a response time of 12 milliseconds, while the 120-megabyte drive has a 19 millisecond response time, says Compaq. The 486c has two internal 32-bit EISA expansion slots and a new feature, which Compaq calls an enhanced option slot.

The 486c measures 15.6 by 11 by 5.2 inches and weighs 17.6 pounds. Compaq says the TFT active matrix VGA color display's viewing angle can be adjusted from minus 5 to plus 32 degrees to reduce glare and get the optimal image quality. The system will support simultaneous internal and external monitor displays, and contains a graphics accelerator which would speed up graphics applications such as those used in Microsoft Windows.

MultiLock, a hardware-software security system, has 14 different tools to protect data, including DriveLock, a fixed disk drive password device which is designed to prohibit data access even when the drive has been removed from the PC.

Compaq says the 486c also supports a CD-ROM interface, allowing the use of a CD-ROM without occupying one of the expansion slots. An audio input jack used in combination with a sound board allows use of sound without requiring external speakers. These latter features would make the 486c feasible as a multimedia platform.

Compaq spokesperson John Sweney told Newsbytes that due to the import duties imposed by the US Commerce Department on Japanese-made color screens such as would be used in the 486c, the 486c will be built at Compaq's Scotland facility. Asked by Newsbytes where the 486c would be built, Sweney responded, "Not here, that's for sure."

The Commerce Department ruling was based on the Commerce Department stating that Japanese manufacturers were dumping screens on the market. Compaq already has manufacturing facilities in Singapore and Scotland, as well as Houston.

The model 210, which has the 210-megabyte hard drive, has a suggested list price of $10,999, while the model 120, with the 120-megabyte hasd disk, is priced at $9,999.

Contact: John Sweney, Compaq Computer, 713-374-1564.

NEC Debuts Color Notebooks

TOKYO, JAPAN, OCT 7 (NB)—NEC has released what it claims are the world's first 32-bit, notebook-type color personal computers. Five models include a multimedia PC, the "PC9EG5," which supports video imagery. The units are much cheaper than existing color laptop models.

NEC's latest color notebook-type PCs are compatible with the firm's best-selling personal computer the "PC-9801" family. The PCs are equipped with a thin-film-transistor (TFT) type LCD (liquid crystal display) and a 20MHz 80386SX processor. It is said the TFT-color LCD is as clear as a color CRT monitor.

The list price of the low-end version of the color notebook-type PC is 598,000 yen (US$4,400), which is about 30 percent cheaper than current color laptop PCs. With a video adaptor, TV and video imagery can be displayed on the PC. The adaptor will cost 398,000 yen (US$2,900) to 848,000 yen (US$6,300). NEC has also released 31 peripherals for the notebooks, including a mouse and a sound board.

NEC is preparing to release some 50 multimedia software titles for this PC through major software makers including Pioneer LDC. The firm will also release Authorware, which runs on Japanese Windows 3.0.

Contact: NEC, +81-3-3798-6511.

Modular Notebook PC From ALR

IRVINE, CALIFORNIA, OCT 9 (NB)—Modularity is a popular issue in computing these days as an easy way for users to change or upgrade a computer system without having to buy a new one. Advanced Logic Research (ALR) is jumping on the modularity handwagon with its announcement of the VIP M modular notebook computer.

Targeted at the traveling power user, ALR's VIP M offers upgrades from the base 20 megahertz (MHz) Intel 80386SX CPU

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(central processing unit) to a 32-bit 20 MHz 486SX or a 25 MHZ 486DX.

While most notebook PCs rate 3.0 million-instructions-per-second (mips) in Power Meter benchmarks, ALR claims the VIP M has a 10 mips rating, the highest performance rating in the industry for a notebook PC.

According to ALR, the upgrade process takes about 30 seconds. It is accomplished by lifting the access cover above the keyboard and changing the CPU. The VIP M weighs seven pounds, measures 11.75 x 8.5 x 2.25 inches, has four megabytes (MB) of interleaved, page-mode RAM, which is expandable to 16 MB, and a 1.44 MB floppy disk drive.

Hard disk sizes from 40, 60 to 80 MB are available. The user may also choose between the 20-MHz 386SX, 20-MHz 486SX or 25-MHz 486DX CPU.

ALR claims to have pioneered the first upgrade architecture on the PC desktop in 1989. More recently, Tandon announced a line of modular desktop computers called the Optima, and a line of desktop computers with removeable, portable hard disks called the PacII.

Contact: Dave Kirkey, Advanced Logic Research, Tel: 714/581-6770, Fax: 714/581-9240.

Momenta Intros "Pentop" Computer

MOUNTAIN VIEW, CALIFORNIA, OCT 4 (NB)—Momenta, a start-up company backed by $40 million in venture capital, has unveiled a "pentop" computer combining a full-size keyboard, the portability of laptop with the handwriting recognition capabilities of the new pen-based computers.

Unlike the pen-based computers, however, the Momenta "pentop" computer is DOS-based and does not require the user to give up the keyboard to use pen technology, Momenta said. The 7-pound portable unit with its own carrying case allows the user to use DOS programs. Handwriting recognition software converts the user's writing when written with a special pen on the screen.

Kim Carsten, of public relations for Momenta, said a user can switch between the pen and the keyboard at any time, write and have the computer do the conversion as it is written, convert the user's handwriting later, or not at all.

Users may not want conversion for scribbling notes, like appointments on a calendar, and the Momenta computer will display the calendar each time with the handwritten notes on it, the company said.

Carsten said the Momenta is geared toward professionals such as writers or lawyers and has a dictionary trainer. It takes about 15 minutes to train the unit to recognize individual handwriting, Carsten said. The unit is geared for note writing and short handwritten pieces with the anticipation that longer writing work would be done on the keyboard, Carsten added. A user could not expect to type a full page of information on any pen-based computer and get 100% recognition, Carsten said, but writing a full page the user would probably want to use a keyboard anyway.

Editing of documents can also be done, in much the same way it is done in pen-based computing environments, with proofreading symbols written by the user interpreted by the computer and acted upon, an crossing out a word would delete it, the company said.

Momenta says the new pentop has an Intel 386 microprocessor, a detachable keyboard for convenience in data entry, and comes with a word processor, spreadsheet, calendar and address book developed by Momenta for the pentop computer.

Contact: Kim Carsten, Momenta, Tel: 415/969-3876 ext 184, Fax: 415/969-3877.

Spectrum Cellular To Provide Cellular Links For Momenta

DALLAS, TEXAS, OCT 8 (NB)—Spectrum Cellular will provide its Axsys smart cellular interface for use with Momenta's new pen-based computing systems.

The Momenta Pentop is the third pen-based system to reach the market, following announcements by Go of an operating system called PenPoint and Microsoft of a system called Pen Windows. Pen-based computers look like thick notepads, and can understand some handwriting Commands and data are entered on flat screens with plastic, ink-less pens.

The deal is the third major move by Spectrum. Previously, it supplied the interface to NEC and Toshiba. The idea is that users of laptop computers will be able to send and receive faxes and data files over cellular phone links using error-correction techniques. The Spectrum Axsys system supports Motorola, Audiovox and Uniden cellular phones.

Contact: Spectrum Information Technologies, John Rule, 214/630-9825.

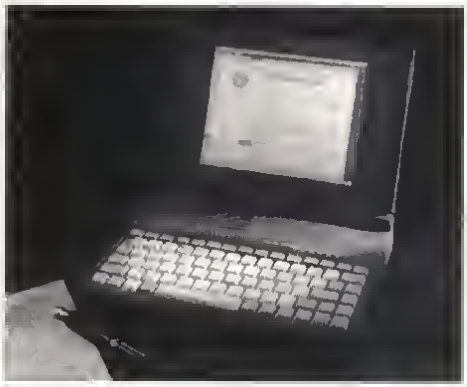
Poqet Offers Radio-Based Palmtops

SANTA CLARA, CALIFORNIA, OCT 2 (NB)—Poqet Computer has announced that it will manufacture and market "communicating computers" based on The Poqet PC. The first of these products will integrate with the ARDIS radio network to provide radio communications and will have a single-unit suggested retail price of $4,095.

The initial unit will contain Motorola's RPM 400z radio modem which also provides Hayes compatible 9600 baud operation over standard telephone lines. The unit is a combination of the standard Poqet MSDOS

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computer currently on the market and an attached modem housing which also contains a parallel printer port, a serial connection, a RJ11 telephone connection for standard modem interface and a separate power connection. The combined unit weighs 2.2 pounds

Poqet spokesperson Matthew Schmidt told Newsbytes that the MS-DOS computer continues to be powered by two standard AA batteries while the modem section draws power from rechargeable NiCADS that have a life of approximately 8 hours between charges.

Schmidt told Newsbytes that the initial marketing thrust for the new units will be to value-added resellers (VARs) specializing in field automation. Poqet will begin to ship prototype systems to product developers in the fourth quarter of this year. Schmidt said that Poqet will also provide applications software development aids as part of the development system. He add that end-user systems will begin to ship toward the end of first quarter 1992.

AARDIS, a partnership of IBM and Motorola, is a nationwide radio data communications service used by field workers. Schmidt said that AARDIS has approximately 40 000 users of whom many use a handheld KDP terminal that sells for the same price as the Poqet.

Schmidt also explained that one can send mail through the radio modem for integration into the worldwide global network. He said there are firms, such as PSI, that provide linkages between the radio network and the Internet. Schmidt says that, while it is a two-step operation to set up any communications link, the interfaces are transparent to the user.

Contact: Robert Owens, Poqet Computer Corp., 408 764-9465

Updata on Ardis-Mobitax Radio Modem Competition

PARAMUS, NEW JERSEY, OCT 2 (NS)—RAM Mobile Data, with backing from Ericsson GE, and Ardis, a joint-venture between Motorola and IBM, are competing fiercely for a new market in linking field staffs to their bases using radio modems.

First, Ericsson GE and Melard Technologies announced a strategic alliance to develop the Mobitex radio data system. Ericsson GE developed Mobitex which is offered in the U.S. by RAM Mobile Data of New York. The Mobitex system here competes with an IBM-Motorola joint venture called Ardis. Melard is developing systems for field service technicians, liking them to host computers via Mobitex. Ericsson GE will provide the modems and other products to make the link possible, as well as marketing and technical support.

Also, the Mobile Data Report newsletter reports that Psion is integrating its handheld Organizer with Mobitex, again using Ericsson GE's upcoming portable radio modem for use over RAM Mobile Data's Mobitex network. Psion has sold some 700,000 Organizers worldwide, and has been exploring wireless data options for two years. Based on size alone, Ericsson is at least 12 months behind Motorola, says MDR Washington editor Alan Reiter. Electronic mail will be the main feature of the new Psion-Ericsson combination.

Ardis has not been silent, either. It signed a deal with Poqet Computer, now a division of Fujitsu, to provide the RF data capability under Poqet's new "communicating computer" concept. The offering includes Motorola's RPM 400i radio modem—only Motorola modems are allowed to use Ardis. In addition, Ardis announced a software interface which makes it easier to link PCs on its system to host applications under standards called LU6.2/CICS. The CICS interface is used on IBM 3090 and compatible mainframe computers. LU 6.2 is a communications standard.

Reiter writes that Poqet is "beating the company," now 80 percent owned by Fujitsu of Japan, on wireless links. The company, which has lost money since its founding, will now include a Motorola radio modem and a fax/land-line modem. In addition to being usable on Ardis, the new modem can also be used with Mobidata in Canada and the Hutchison network in Hong Kong. By keeping the modem on standby 90 percent of the day and transmitting one per cent, the batteries should last about ten hours, Poqet believes. The entire system weighs two pounds.

Reiter writes that the new Poqet will compete with Motorola's one-line, non-DOS, portable RDT 940 terminal and the new IBM PCradios.

"Looking at the products from IBM's and Motorola's standpoint, Poqet will have to prove that its computer can withstand the rigors of the mobile data environment," writes Reiter.

Contact: Ericsson, Kathy Egan, 212/685-4030. Alan Reiter, Mobile Data Report, 202-223-2933.

Telebit Intros New V.32 Portable Modem

SUNNYVALE, CALIFORNIA, OCT 8 (NB)—Telebit has introduced what it calls the smallest, most powerful V.32 modem in the industry.

Running on a standard nine-volt battery and measuring under 2.5 inches, or .06 meters, on a side, the QBlazer can run at the equivalent 39,400 bits-per-second (bps) with V.42bis error compression and data correction.

The modem can be used with both IBM PC and compatible computers and Apple Macintoshes. The product features eight status lights and a speaker.

The QBlazer retails at $745 and includes a custom accessory travel pouch and MagicSoft PC Communications Software. A two-year warranty is also provided.

Contact: Telebit, Donna Loughlin 408/745-3068

World's Fastest Modem Debuts: 76,800 bps

TOKYO, JAPAN, OCT 10 (NB)—Shin-Nippon Kohan says it has developed a modem which transmits data at 76,800 bits per second. Its "Super Hi-speed Modem" will be released in Japan, the U.S., and Europe next month.

The Super Hi-speed Modem was jointly developed with Forval, a subsidiary of Shin-Nippon Kohan in the U.S., and its affiliate firm Intelligent Modem Corporation in the U.S. They have developed two versions of the modem. One is a stand-alone unit and the other is a card-type modem. Both modems are based on the CCITT standard. Intelligent Modem Corp. has applied for the copyright protection on these products in the U.S. in May.

The list price of the 76,800 bps modem will be around 100 000 yen ($740).

Forval and Intelligent Modem Corporation have been working together on modems for some time. They released a 14,400 bps modem in the U.S. last fall.

Forval will start its own online computer BBS called "Forval Link" shortly. Updated data on the modems and upgrade information will be offered to callers, as well as modem drivers.

Contact: Forval Shin-Nippon Kohan, +81-3-3583-2701.

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Japan Predicts Hot Technologies For Year 2000

TOKYO, JAPAN SEPT 26 (NB)—A report from Japan's Economic Planning Agency says the hottest high technologies of the year 2000 will be related to telecommunications, transportation, environment, and energy. The Agency looked at 101 technologies in its report.

The Agency says the industries which will exceed 100 billion yen ($740 million) sales by the year 2000 will include personal telecommunications equipment, satellite networks or ultra small ground telecommunications bases. ISDN switching devices for broad telecommunications, optical data recording systems, cars with a new type of energy other than gasoline, and efficient heat pumps.

Others include large-scale electric batteries, extra-strong carbon textile plastic, next-generation cars, industrial robots, underground garbage processing systems, and disposable plastic.

Superconducting materials and devices, terabit memory, and virtual reality systems will take more time to become lucrative industries, the report said.

Japan To Develop Car Navigation Systems

TOKYO, JAPAN, OCT 11 (NB)—Japan's Construction Ministry has started developing a car navigation system in a large scale project that has cost 500 to 600 million yen (around $4 million). There will be a test of the system in November.

The Construction Ministry's car navigation system consists of a small LCD TV monitor and a radiowave receiver in this system, the Ministry will provide various information including traffic congestion, accidents, availability of parking, and the current location of a car. The information can be transmitted to the car's navigation receiver via the nearest transmitters, which will be placed on the street lights along the streets. The actual testing will be conducted in Tokyo, Osaka, and Nagoya.

Meanwhile, the Japanese Police Agency is also planning its own navigation service based on a CD-ROM drive and an LCD monitor. The Police Agency wants to provide the traffic information to cars with maps stored on in-car CD-ROMs. The Police Agency and the Construction Ministry will cooperate the development of the service in order to set up a unified system in the future.

Currently, private firms including Pioneer Electric, are marketing car navigation systems, which provide location information using U.S. military space satellites. Such systems cost 300,000 yen ($2,200) to 600,000 yen ($4,400), which is relatively expensive. It is expected that the systems will be much cheaper in the near future.

Contact: Pioneer Electric +813-3494-1111

Tiny Digital Tape Developed By Sony

TOKYO, JAPAN, OCT 10 (NB)—Sony has developed another digital audio cassette tape recorder and tape for consumer use. The tape is size of a postal stamp. Sony contends the device is the future standard for audio cassette tapes. It is expected to compete with Philips Matsushita's DCC (digital compact cassette) tape.

Sony's latest digital audio cassette tape recorder is called the "Digital Micro Recorder." It records audio as 12-bit digital signals. So, the sound quality is slightly inferior to compact discs (CD), which records 16-bit signals. However, Sony says the difference itself is so little that it cannot be audible to human ears. With a single removable battery, it can be continuously used for seven hours. The tape stores two hours of recording.

The list price of this ultra-small digital cassette recorder will be less than 100,000 yen ($740) and it will be sold next spring.

Meanwhile Sony is also pushing another digital audio unit called the "Mini Disk." Sony says it will license the Mini Disk system to third parties.

Similar to DAT (digital audio tape), Sony will add a copyright protection feature called the Serial Copy Management System or SCMS to the Digital Micro Recorder as well as the Mini Disk.

Contact: Sony, +81 3-3448-2200

Peripheral Land Ships 3.5" Rewritable Optical Drive

FREMONT, CALIFORNIA, OCT 9 (NB)—Peripheral Land Incorporated (PLI) has announced it is shipping the Infinity Optical 3.5" rewritable optical drive for the Macintosh, IBM personal computer (PC) and NeXT platforms.

Each single-sided, optical disk can hold 128 megabytes (MB) of data or the same amount as 90 1.44 MB floppy disks.

PLI maintains that the Infinity Optical has a data transfer rate of 625 kilobytes-per-second due to the disks rotation speed of 3000 rotation-per-minute (rpm). The half-height drive has a 64 kilobyte buffer included which is also said to improve performance.

PLI said the drive is compatible with the Mac Plus and all greater Macintosh computers.

Retail pricing is $2,199 and cartridges (the optical disks) will be less than $100 each. A one year warranty, a money-back guarantee and toll-free support are also offered. More information about the drives can be obtained at (800)288-8754.

Contact: Tad Shalby, Peripheral Land, Tel 415/657-2211 ext. 426, Fax. 415/683-9713

Multifunction Peripherals Common In Future, Says Analyst

VANCOUVER, WASHINGTON, SEP 30 (NB)—Printer, facsimile, scanner, and copier vendors searching for new ways to lure customers will produce a wave of multifunction machines that print, fax, scan, and copy in the next few years, according to Rob Auster, group director of electronic printing at IDS Strategic Decisions of Norwell, Massachusetts. Auster was speaking to a gathering of international journalists here, sponsored by Hewlett-Packard.

"Single-function vendors are basically running out of room to grow," Auster said. Rather than compete on price, the vendors want to add features to their products. In the search for new features to add, he predicted, they will turn single-function units into multi-function units.

Auster said customers will buy the multifunction machines because the concept is easy to understand and because they will believe they are getting more for their money. "Eighty percent of what we buy in life is perception, not reality," he said.

There are concerns about multifunction devices, Auster admitted. One is that if you rely on one machine for several functions, when that machine breaks everything is out of service. Auster said vendors can combat this by emphasizing the multifunction unit's relationship to reliable laser printers rather than to less reliable photocopiers and fax machines.

Customers may also worry that relying on one machine for several functions will mean long lineups to use it and problems with, for instance, receiving incoming faxes while the machine is printing a document. Built-in memory and multitasking features can help get around this objection, Auster said.

He added that the rise of multifunction

Continued on page 47

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Network Eye (Network Remote Ctrl.)	call

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Ethernet Cards 8-bit/16-bit	$371/399
Novell 2.2 (5 user)/5.11 (20 user)	699/2795
Novell 2 user Arcnet starter kit	899
Novell 2 user Ethernet starter kit	995

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Colorado Jumbo 120 40-120MB Cap	315
Colorado Jumbo 250, 120-250MB Cap	365
Colorado external kit for Jumbo 120 & 250	139
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Colorado FC-10 tape controller (4.4M/6min)	95
Colorado TC-15 tape drive series 3.8M/6min	279
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• Fujitsu FKB4700 101-key enhanced keyboard
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machines could create a boom in certain computer applications that rely on devices such as scanners. As more and more computer users buy multifunction peripherals and thus get scanners they might not have bought separately, they will be more inclined to look at scanning-related applications such as optical character recognition, Auster said.

Hewlett-Packard officials were cautious about Auster's projections. "I agree with him that there's going to be a multifunction business," said Bill McGlynn of HP's printer products group, "but I don't think it's going to be as big as he thinks it is."

McGlynn suggested customers may be more interested in buying products that let them add the functions they want as extra modules rather than paying all at once for units that do everything.

However, another HP official, while calling the future of multifunction devices "debatable," said it is inevitable the company will offer multifunction products.

Cellular Crunch

Japan's major telecom firm NTT estimates that the phone numbers for car-phones and mobile phones will run out in Japan around 1995 if the current popularity of those phones continues.

UNIX

Sharp Releases Notebook-type Unix Workstation

TOKYO, JAPAN, SEPT 26 (NB)—Sharp has released an A4-size lightweight Unix workstation, which it says offers powerful features at a cost lower than existing workstations.

Sharp's latest workstation, the "UN-10," is a notebook-type unit which weighs only 5.4kg (7.4 pounds). With a built-in 40-megabyte hard disk, the workstation costs 798,000 yen ($5,000), which is more than 20 percent cheaper than its counterparts from Toshiba and Sony. The UN-10 has a 20MHz 68030 processor. The screen is said to present a very clear picture as it's equipped with a TSTN (triple super twist nematics)-type LCD with 640 x 480 pixels. The processing speed of this workstation is 3 to 4 million instructions per second (MIPS).

The UN-10 workstation supports the latest software versions, including the OA/UX4.0 operating system which is based on Unix System V Release 4. The workstation also supports OSF/Motif, X Window V11 Release 4, and Ethernet.

Analysts suggest that Sharp's notebook-type workstation will institute a downsizing trend among workstation makers.

Contact: Sharp +81 3-3216-1161

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NEWSBYTES

DEC To Distribute Adobe Illustrator With Workstations



MOUNTAIN VIEW, CALIFORNIA, OCT 8 (NB)—Adobe announced an agreement with Digital Equipment Corporation (DEC) under which DEC will distribute its Adobe Illustrator 3.0 software for VMS and ULTRIX reduced instruction set chip (RISC) workstations running under the Motif graphical user interface (GUI).

DEC is expected to begin marketing the product in December of this year at a suggested retail price of $995, Adobe said.

Contact: Patricia Pane Adobe, Tel: 415/962-3967 Fax: 415/969-4138

DOS To Unix With SCO's New JSB MultiView Desktop 3.1

SAN JOSE, CALIFORNIA, OCT 10 (NB)—New Microsoft Windows users can view multiple MS-DOS, Windows Xenix, and Unix system applications at the same time in multiple Windows on a IBM personal computer with The Santa Cruz Operation's (SCO's) newly announced JSB MultiView Desktop Release 3.1.

SCO says the JSB MultiView Desktop Release 3.1 allows users to run Unix applications from a 286, 386 or 486 PC running Microsoft Windows 3.0 connected via RS-232 serial lines, modems or network transports to a host running SCO Xenix, SCO Unix System V, or SCO Open Desktop.

Karen Blue, general manager of SCO's complementary products business unit, said "This new release of JSB MultiView DeskTop, in addition to SCO's Microsoft LAN [local area network] Manager for Unix Systems, exemplifies SCO's commitment to providing a variety of DOS-to-Unix connectivity options."

Blue went on to say "Release 3.1 protects the investment Windows users have made in personal productivity software hardware and training, while giving them full access to, and integration with, Unix systems."

But not only can users run Unix applications, they can share data between Windows and Unix applications as the JSB Multiview Desktop makes use of Windows Dynamic Data Exchange (DDE), SCO said. JSB MultiView DeskTop provides file-transfer and "copy-and-paste" capabilities between applications SCO said. Users can also print from MS-DOS and Windows applications to Unix network printers, SCO added.

Blue added "Users can take advantage of the vast number of MSDOS and Windows applications, access corporate data and Unix applications anywhere on the network, and get rid of that extra terminal on their desks as a bonus!"

Further users have access to online, context sensitive help, SCO console emulation, enhanced VT220 terminal emulation, support for proportional fonts (including Windows fonts), and even displays colored icons, SCO said.

Users can also run up to six separate sessions on a SCO host with a single login, display each session in its own window and even log into multiple Unix hosts as well, SCO said. Unix to Windows applications.

JSB MultiView DeskTop Release 3.1 supports Microsoft LAN Manager for UnixSystems and many other new network transports, and includes a modular architecture that allows support for additional terminals and networks as well, SCO said.

Contact: Barbara LeFrance, Santa Cruz Operation, 408/425-7222 Ext. 5648, Fax: 408/427 5448

WINDOWS WORLD

New For PC: Windows Packages From CA

GARDEN CITY NEW YORK, OCT 11 (NB)—Computer Associates has introduced three software packages for Microsoft Windows and promised more by year-end. The company said it plans to have the industry's most comprehensive line of Windows applications.

CA has announced, dBFast, a multi-user version of the dBASE development language for Windows, CA-PHIPS an image processing system, and CA-SuperProject for MS-Windows, a Windows version of Computer Associates' project management software.

dBFast is built on technology CA acquired and has offered under DOS. The new Windows version supports data sharing over a local area network said John Schoutsen, marketing manager in the Micro Products Division at CA Canada in Mississauga Ontario. It allows any application developed in dBASE III to be run under the Windows interface he said. Due to ship November 11, the single-user version of dBFast will sell for C$595. A multi-user version is also available.

CA-PHIPS a high resolution image processing package for Windows, is also due to be available in November. It can read and write 32, 24, 16 eight four and one-bit color and grey-scale data in a variety of formats, the company said. Image customization options include color reduction scaling, rotation, dithering, image sharpening, smoothing, noise reduction controlled image compression, omni-directional file format conversion, and color separation. The price is C$549.

The new Windows version of SuperProject offers the same functions as the existing versions for DOS and for Digital Equipment VAX minicomputers, Schoutsen said, but adds full support for the Windows interface. It is available immediately at C$995.

CA promised to introduce Windows versions of Accpac Plus its high-end accounting software, and SuperCalc, its basic spreadsheet program. The company also promised new Windows products in the areas of word processing spreadsheet, and other applications. Schoutsen said the additional Windows spreadsheet program will be based on CA-Compete, a high-end financial modelling package the company already sells.

Contact: John Schoutsen, CA Canada, 416-676-6700 fax 416-676-6734.

MicroPhone II for Windows

BERKELEY, CALIFORNIA OCT 11 (NB)—Software Ventures Corp. developer of the MicroPhone II communications software package for the Macintosh, is now shipping version 2.0 of MicroPhone II for Windows.

According to the company the product features a complete implementation of Dynamic Data Exchange (DDE) which allows for it to act as both DDE server and client. Additionally the package also allows for multiple sessions to be run at the same time, as well as multitasking, where several applications can be run at once even during file transfers. The ZMODEM protocol is also supported.

MicroPhone II for Windows also includes a built-in script editor, context-sensitive on-line help, and front-ends to such information services a GEnie and CompuServe.

MicroPhone II for Windows 2.0 is being offered at the introductory price of $129 until November 30, 1991. After that date it will be priced at $195.

Contact: Sylvia Paull. Software Ventures Corp., 415-644-3232

NEWSBYTES

Microsoft Entertainment Packs For Windows

REDMOND WASHINGTON, OCT 4 (NB)—Microsoft has announced it is now shipping volumes two and three of its Entertainment Packs for Windows.

Each volume consists of seven new games, as well as a variety of screen savers that include password protection. Included in the new volumes are such programs as SkiFree and Fuji Golf, a screen saver that weaves an oriental tapestry and a 400-year old Polish puzzle called Klotski, which Newsbytes reported on earlier this year.

Microsoft says the games in volume one were originally developed by company programmers in their spare time, but became so popular within the company that it decided to market them commercially. Three of the new games were developed using Microsoft Visual Basic, the graphical programming system for Windows.

Volume Two includes Pipe Dream, FreeCell, Tut's Tomb, JigSawed, Rodent's Revenge, RattleRace, Stones, and IdleWild. Pipe Dream, originally designed by Lucas Arts Entertainment Company, requires quick reflexes and some plumbing ability. FreeCell and Tut's Tomb are twists on Solitaire. JigSawed allows the player to chop any bitmap into puzzle pieces, and the level of difficulty can be adjusted from a five-minute break to an all-day exercise.

Rodent's Revenge is a cat and mouse game, with the user playing the part of the mouse. In RattleRace, users, as snakes, grow longer with each apple they eat, as they move through mazes. Stones is a game of observation and strategy, while IdleWild is a collection of screen savers. Supporting password protection, IdleWild includes fractals, spinning spider webs, spotlights, and other moving designs.

Entertainment Pack Volume Three includes Fuji Golf, TriPeaks, WordZap, Klotski, SkiFree, LifeGenesis, TetraVex, and IdleWild. In Fuji Golf, developed by a Microsoft Japanese subsidiary, golfers adjust their strokes to terrain and wind as they play 18 holes at the base of Mt. Fuji. TriPeaks is a card game similar to Solitaire, while SkiFree has the player skiing down a hill covered with obstacles, people, and racing gates. WordZap is a word game in which players match wits against the computer in a vocabulary race. The screen savers in Volume Three include oriental tapestries, sailboat races, and snakes.

Each volume carries a suggested retail price of $39.95 and requires Windows 3.0, DOS 3.1 or later, a 286, 386 or 486 PC, one 5.25-inch high density drive or a 3.5-inch drive, and a hard drive. You will need at least 1 MB of RAM, an EGA, CGA, 8514/A or Hercules video card, and a mouse. The company recommends a color monitor.

Contact: Karen Meredith Microsoft, 206 882 8080.

New For PC: Panacea Intros Windows Accelerator

LONDONDERRY, NEW HAMPSHIRE, OCT 1 (NB)— Panacea Incorporated has announced Winspeed, a software-only upgrade that speeds up the display speed capabilities of applications running under Microsoft Windows.

Scheduled to be publicly unveiled at Comdex Fall in a few weeks time, the package speeds up Windows applications by a factor of between two and five. The package is billed as an alternative for MS-Windows users who are 'plagued with cumbersome display performance but do not wish to purchase or install costly hardware upgrades for their PCs,' according to the company.

Winspeed is designed to run with more than 85 percent of all Super VGA graphics cards in use, the package works in a similar fashion to similar packages for the Atari ST—replacing the standard screen drivers with a new set of program modules that run much faster.

The package, which was developed by Binar Graphics a California-based company, is priced at $79.

Contact: Panacea - Tel. 603437-5022

New For PC: WordStar for Windows Ships

NOVATO CALIFORNIA, OCT 1 (NB)— WordStar International has announced it is shipping WordStar for Windows.

The long-awaited Windows version of WordStar features page layout, graphics, color, and table generation. The new version takes advantage of such Windows features as dynamic data exchange (DDE), as well as DOS file referencing and local area network (LAN) support.

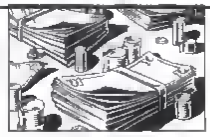
As an added bonus WordStar says it is initially bundling $200 worth of additional software—Correct Grammar for Windows and FaceLift from BitStream—with the new WordStar for Windows. Correct Grammar is a writing tool for identifying grammar, style, punctuation and syntax errors in a document.

FaceLift is an onscreen and printer font rendering tool. One of the purposes of FaceLift is to make fonts appear onscreen just as they will when printed. FaceLift comes with 13 rendered typefaces.

The retail price is $495. Registered users of WordStar Legacy may upgrade for $49. Registered users of WordStar for DOS can upgrade for $129. WordStar is also offering the $129 upgrade price to owners of other software packages for Windows. More information is available by calling (800)-227-5609.

Contact: Kristin Keyes, WordStar Tel 415/382-4955 Fax 415/883-0560

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FEATURE



WORKSTATIONS:

A Knowledgeworker's Toolbox For The 90's

by William Barr

For The Record

Over the past year, the line between "workstations" and personal computers has become much more blurry. With all "high-end" personal computers, performance ratings of 20 million instructions per second (MIPS) are being exceeded. This equals, if not even surpasses, the performance ratings of low-end UNIX workstations. So then, what makes a UNIX workstation a different animal?

In a nutshell, a UNIX workstation is a well-integrated computer combining fast graphics, a high speed CPU with a math co-processor, a quick-storage subsystem, and an architecture that allows plenty of data throughput. Combine this kind of hardware with a large screen, a flexible multiuser/multitasking operating system, and a graphic user interface (GUI) and we have the foundation for a workstation.

It's true that similar graphics performance is available for personal computers of all kinds. However, there are two objections to this line of reasoning. First, adding the additional hardware to a personal computer will end up costing the same amount or a low-end UNIX workstation. Second, a project will take more time because the computing power and throughput of a personal computer will be insufficient.

Jargon Alert!

The term "workstation" deserves some "defuzzification" at this point. As it stands now, workstation refers to any keyboard-and-monitor machination or a corporate setting.

Marketers seem to be impressed with the sense of authority the word "workstation" implies and have been using the term to discribe a diskless '286 on a Novell LAN or even dumb terminals. Besides, it sounds more impressive than "PC".

For our purposes, we shall arbitrarily define a workstation as a computer that is not based on an existing personal computer architecture (i.e., AT, etc.)

I would also like to add a note about MIPS. Also known as Meaningless Information Perpetrated by Salespeople. It is not a definitive evaluation criteria. For lack of a better term, it is analagous to the quarter-mile times for a car. How often do you drag race your car? While MIPS provides us with a useful measure for rough comparison, the value gives no indication, whatsoever, of how the system will perform in the real world. Even though I have included published MIPS ratings here, please take them with a grain of salt (dragsters don't corner very well).

So, What Is A Workstation?

As the name implies, a workstation does more than a personal computer. A PC was designed to do one thing at a time as a stand-alone machine. In contrast, a workstation is designed to function on a network while allowing the operator to perform several tasks simultaneously. This inherent capability to multitask and share resources in a multiuser environment is what sets workstations apart from personal computers. To see how this is done, let's take a moment to examine the components.

The first thing you will notice about a workstation is the size of the screen. A 16" screen is small; most people prefer 16" colour models because more workspace can be displayed. Typically, display resolution exceeds 1024x768 pixels (the upper limit of Super VGA) for good detail with these large screen sizes. A large monitor is required because all workstations employ a GUI.

Those of you who are familiar with a Macintosh, OS/2 or MS Windows will know that a large screen is most helpful. You will also be aware that a graphical application runs slower than traditional character-based software. Combine a larger screen (many more pixels have to be refreshed) with graphical software and any PC starts getting overworked. Sure, you can buy a graphics accelerator for a personal computer, but one is included with a workstation. In fact, some vendors include a graphics subsystem as an integral part of the central processing unit (CPU).

Another feature is a fast CPU (and UNIX needs all the speed it can get). Power PCs like 486s or high-end Macs/Amigas run at roughly 15 to 20 MIPS. A typical entry-level workstation starts at 20 MIPS and mid-range units run at 50 to 70 MIPS. Again, you can buy a high-end PC, toss in some more hardware, add UNIX and you can have a low-end, patchworkpilit workstation. But what happens to your overall system performance when that 32-bit processor tries to ram data (pardon the pun) down that 16-bit bus?

With a workstation, the bus is designed with the CPU's future in mind. The bus is not a performance bottleneck, it quickly moves data from point to point without hindrance. Add to this a large disk, lots of memory, and an easy way to add peripherals (via SCSI connectors) and that makes for an impressive piece of machinery.

Hardware Is Half Of The Equation

Let's not forget about the UNIX in UNIX Workstations. Now, a lot has been said (not all of it favorable!) about UNIX for over two decades. And that's the point. UNIX has been around for over 20 years. That's a fair bit of time to build a feature-packed operating system.

To begin with, UNIX is multitasking and multiuser. It is feasible for several people to use a workstation at once and/or perform several tasks at once. For impatient people or for those who would like to do several things at once this is ideal.

UNIX also has a complete communications suite built-in. Workstations come LAN-ready with integral ethernet cards. Just clamp on the cable to the workstation, set the address, and you're on the net. Serial communications (over the phone line or via a cable) support is also built in. This feature makes wide area networks (WANs) easy to set up, too.

Finally, UNIX supports a number of interfaces. Since workstations come with powerful GUIs, the user doesn't have to navigate through the cipherspace of the ugly UNIX command line. Good programmers agree that we mere mortals should be shielded from native UNIX. The presence of a GUI means that you spend time learning the application instead of learning UNIX.

A Good Place To Start

I'll be the first to admit that most people in business have no need for the power of a workstation on or beside their desk. In most cases a personal computer will suffice. However, when time is really valuable or you still find yourself waiting for a calculation to finish, perhaps you should consider examining a workstation-based product.

Whether you are a design engineer, a programmer, a financial analyst, a publisher, or a multimedia artist, there are some very powerful solutions to your problems that you just won't see at your local computer store. Maybe you will find it in these pages. ❐

William Barr is a partner in the Vancouver-based management consulting firm of Barr, McCormick & Associates. They specialize in needs analysis, system selection and deployment.

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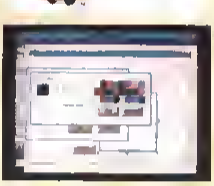
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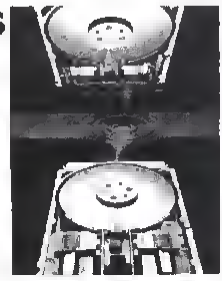
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Need A Workstation At Your Work Station?

by William Barr

Who Really Needs A Mainframe On The Desk?

There are four broad categories of occupations that would find a UNIX workstation useful. Mind you, these are only generalizations.

The first group are software developers and engineers. The raw speed of a workstation cuts the time wasted waiting for code to compile. Regardless of the computer type that will be the target, a workstation will improve productivity.

The second group are those who have a need to analyze or monitor a large amount of data, graphically. Again, the speed and video resolution will decrease the time needed to visualize relationships and present those relationships in an intuitive fashion.

Designers of all sorts will benefit as well. Both artists and engineers can, with a workstation, refine and clearly view detailed designs as many times as needed. This, in some cases, can virtually eliminate the need for building models of the design.

Finally, the fourth group are media workers. Whether the project is publishing directories and similar large documents or producing special effects for *The Abyss* or *Terminator 2*, a UNIX workstation will give you a realm of tools not available in the personal computer world. (The effects for both of these films were created with software from Toronto's Alias Research, by the way.—*Ed.*)

No More Excuses From Programmers

On a personal computer, the biggest waste of time in a software development environment is waiting for the computer to re-compile the code. That's why programmers always whine about needing faster computers. Even by using various multitasking products for PCs, developers still spend a lot of time reading novels.

On a fast workstation, there are no more excuses. Large screens allow for multiple windows, this is frequently referred to as "heads up" programming. A fast processor can cut compile times down to a half or even a third. Even so, with a proper multitasking environment, a developer's train of thought need not be interrupted.

The other benefit is that better development software is available for workstations. Computer-aided software engineering (CASE) tools can really help reduce development time and improve quality control. Also, cross compilers are numerous so that code developed on a workstation can be written for a PC. The popular IBM PC program GeoWorks (Berkeley Software) was written and compiled on Sun Microsystems' SPARC workstations.

In a lot of cases, regardless of the final application (databases, inventory systems, etc.), a UNIX workstation will help analysts and programmers do their jobs more effectively.

What Do All Those Numbers Mean, Anyway?

An ancient Chinese sage once remarked that a picture is worth a thousand words. If it's your job to make sense out of many rows and columns of numbers, then a workstation may be just the thing for you.

Since workstations are popular in science and engineering, one would expect a myriad of data acquisition, statistical analysis/interpretive and graphics software. In this regard you won't be disappointed.

There are dozens of applications that will allow you to gather huge files of meaningless numbers, sort them and create meaningful, three-dimensional pictures. This is a trend that is known as "data visualization" and is a booming industry in its own right.

In business, the workstation is not a commonplace office fixture (yet) and little is known about what software is available; however, on Wall Street, every good broker and analyst has a workstation on their desk. Perhaps business still sees an expensive workstation as a BMW or a Volvo.

Nevertheless, the standard databases, spreadsheets, accounting systems and word processors are available. Additionally, there are numerous graphics, communications and vertical market applications on the market. Additionally, there can also be interdisciplinary crossovers.

The same software that a geophysicist uses to turn seismic data into maps of underground caverns can also be used by a financial analyst to detect a trading pattern of a particular group of stocks. In fact, that's precisely what some investment companies do. There are also a number of technical analysis programs, employing artificial intelligence techniques, that could only run in a timely manner on UNIX workstations.

A workstation will allow you to simultaneously allow you to acquire data from a news service, do some intensive number-crunching in the background, draw charts in real time, do some analysis while you put the finishing touches on that important proposal.

If you have the need to clone yourself or can't afford to wait for results, take a serious look at a UNIX workstation solution.

Refine Your Design

Industrial design is where a workstation can really shine. How would you like to know exactly how a product will behave and what it will look like before spending money on a prototype?

Whether you are an artist on an automotive design team or an engineer determining the optimal layout of a circuit board, UNIX workstations far surpass anything a personal computer can do. In fact, design software is getting so good, many manufacturers employing the latest techniques have reduced their development cycles to one or two prototypes.

Powerful modelling and simulation software allows you to build a representation of a system plus your designed components. You can then test the interactions of your component with the system, without even having to build a prototype.

Once the system has been tested, the components can be designed using a CAD package. In addition to allowing multiple design iterations quickly, a high level of precision is maintained.

Each design can then be rendered in three dimensions with stunning clarity and detail. This also provides you with a powerful sales tool. Several companies have found that showing a customer a very accurate presentation of what the final product will look like has closed more deals.

You can even subject your design to simulated physical stress to see how it will react. Computer simulated non-destructive testing is a fast-growing service in its own right.

Even though the startup cost of a UNIX workstation design solution will be high, the payoff in terms of staff time and production savings will quickly justify the added expense. Besides, do you really want to pay your designers to wait for re-draws?

Continued on page 53

MIPS For Multimedia

When discussing multi-media and workstations, the obvious place to start is with print publishing.

As with all of the above applications, workstations offer a scale of performance above that of personal computers. While the functions are essentially the same as on their slower cousins, workstation-based solutions are better suited to larger projects or small shops that have to look big. Perhaps the biggest advantage they offer over PCs is group project management. Since most software is multiuser, managing the production of large documents like catalogues and directories is somewhat easier than in a PC environment. For large scale projects the benefits of a group of workstations becomes clear.

Moving on to multimedia, recently workstations have really shown their worth. If you have been paying some attention to television more commercials, program and movies are being aired that employ special effects produced on workstations. Somewhat closer to home, the same effects can be used in promotional videos and education.

The big benefit of workstation hardware in this kind of production is the ability of some models to draw at speeds of greater than 30 frames per second. This allows the computer to display a scene or data animated in real time. This will give any production a high-quality, professional finish.

And as we all know, so advertising, perception is reality.

Continued on page 98

ACE Reshuffled into DEC

Reprinted From UnixWorld

The Advanced Computing Environment (ACE) project is beginning to look less like a PC and more like a UNIX RISC workstation-in particular, like a UNIX RISC workstation from Digital Equipment Corp. DEC has already rolled out new workstations it says are compatible with Advanced RISC Computing (ARC), ACE's specification for RISC system compatibility. DEC has also taken the lead in promoting ACE while other ACE founders, such as Compaq Computer and Microsoft, have faded into the background.

There's good reason, it turns out. When the ACE strategy was announced this spring by Compaq, DEC, Microsoft, MIPS, and The Santa Cruz Operation, the five founders said it would use two operating systems—SCO's Open Desktop UNIX and Microsoft's Portable OS/2—each running on two kinds of hardware—IBM-compatible PCs and MIPS-based RISC workstations—for a total of four separate combinations. However the UNIX and RISC parts of the project have charged forward while Microsoft's PC contributions appear to be mired in its running battle with IBM.

DEC and SCO say the developers' kits of the ACE version of Open Desktop will be available early this month. The new UNIX operating system combines SCO's current Open Desktop with DEC's Ultrix and the Open Software Foundation's OSF/1. Because the new Open Desktop is slated to be compatible with both existing Ultrix RISC software and Open Desktop applications, the stage is set for an operating system with applications available for both PC and RISC environments by the end of the year.

Meanwhile, ACE members received the 150-page specification for ARC workstations this summer. The only part of the ARC specification that's currently unavailable is the R4000 RISC CPU designed by MIPS. MIPS says its five chipmaking partners-NEC, Integrated Device Technology, LSI Logic, Siemens, and Performance Semiconductor-are already sampling the R4000 and it too will be in production by the end of the year. That will let the rest of ACE's workstation vendors get products out the door. DEC's early "ACE-compatible" workstations use the MIPS R3000 RISC CPU rather than the R4000.

With IBM-compatible PCs readily available three corners of the ACE square should be in place by year's end. What about the fourth corner? Microsoft's Portable OS/2 was the operating system that was to bring PC applications to ACE and make it appealing to PC users who wouldn't otherwise consider RISC workstations. Microsoft says Portable OS/2 has been stripped of its OS/2 compatibility, and is now known as Windows NT (for "new technology"). The company also says neither the PC nor RISC versions of Windows NT will be available until sometime in 1992.

Where does that leave ACE? By late summer, the group had grown to nearly 60 members. The ACE hardware will be in place by the end of 1991, as will its UNIX-based operating system. Whether ACE can make it without Windows NT and all the DOS software it promises to run, could be the real test of whether UNIX can make it in the mass market.

MicroSun?

The ACE initiative and the IBM-Apple alliance have brought strange bedfellows together, but here's a stranger one still: Sun Microsystems and Microsoft. Considering that ACE was formed as a result of Sun's domination of the RISC workstation market, and IBM aligned with Apple because of its fallout with Microsoft, an alliance seems strange but not out of the question, say analysts. Insiders at Sun say Microsoft's Bill Gates visited Sun CEO Scott McNealy this summer, but refused to comment on the discussions.

Most analysts speculate that Microsoft wants its NT operating system to run on Sun machines. Although Microsoft is committed to the MIPS chips through the ACE initiative, some analysts say Microsoft also wants to align with Sun because of its market presence ☐

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All About GUIs

by Cathalyne Laberge-Smith, additional material by Graeme Bennett

What Is a GUI?

A GUI (graphical user interface) simply provides the means to interact with a computer using graphical symbols. It provides an interface between the user and the tasks the user wants to do.

GUIs are characterized by icons that are metaphors for tasks, documents and applications. For example, by putting a little icon of a text document in a folder, you could represent copying or moving an actual computer file into a different directory.

Most GUIs use scroll bars, title bars, menus that pull down, drop down or pop up, and buttons to engage the user.

GUIs are used with a mouse for pointing, clicking, dragging, selecting and scrolling. These props insulate the user from the technical aspects of software applications.

GUIs have a windowing environment where many files and applications can be used together in frames. These windows can be actively sized and sorted as needed. The reason that the GUI seems to create less frustration in the user, is this ease of navigation through the various interactive applications.

Critics of GUIs say that "windows, icons, mouse, pointer" not only spells user-friendly, but the initials describe the users, too.

To GUI or not to GUI?

Since the release of Microsoft's latest graphical user interface, Windows 3.0, there has been much attention and money spent on Windows application software. Suddenly everyone wants to invest in a GUI, while abandoning their Character-based User Interface (CUI).

The investment is costly: expensive 386SX or full 386 computers, color monitors, spiffy VGA cards, memory-hogging fancy software with fancy price tags dangling from their designer boxes. And some people will find it difficult to adapt to the GUI environment from CUI applications, so then there is time invested in training people on this new interface.

The question is, "Is it worth it?" According to a recent study called The Benefits of the Graphical User Interface (by Temple, Barker & Sloane Inc. and co-sponsored by Microsoft), investing in a GUI is worth it, in terms of employee productivity. Temple, Barker & Sloane, Inc. (TBS) showed that both novice and experienced computer users work with less frustration, work better, work faster, and can self-teach more successfully with a GUI than with a CUI.

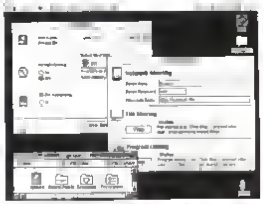
Except for not admitting their sample size, TBS does build a solid case for GUIs. At least it can be believed that learning one program within a GUI will help you learn its other applications more quickly; that there is a transference of learning. As users, however, we must still base our decisions on feelings, especially our first reactions to the new desktop; are we comfortable with this or not?

Which GUI should I buy?

If you have made the decision to buy a GUI, then the type of GUI you need depends on the type of computer you will use. Here is a sample of the GUIs developed for common computer hardware.

GUI Flavors

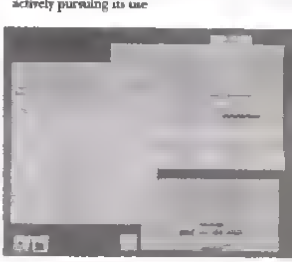
Macintosh—granddaddy of GUIs, bringing WYSIWYG technology to the masses with a bit-mapped, high-resolution graphics display built over a proprietary operating system that manages to be both sophisticated and user-friendly. The latest incarnation of the Mac's operating system, System 7, brings scalable outline fonts, integrated network support/file sharing, interapplication communication, virtual memory (limited) multitasking capabilities and a host of other improvements to the standard that other GUIs are measured against.



Apple has fiercely protected its own look and feel as Microsoft and Digital Research found out in court when they developed their own Mac look-alike GUIs for the PC. The Mac desktop, called the Finder, was originally patterned after a system called the Xerox Star, developed at the Palo Alto Research Center (PARC).



NeXTstep—the GUI included with the NeXT computer. NeXTstep was the first GUI to create a 3-D effect on its high-resolution gray-scale or color monitors. Key features of the rich NeXTstep environment include pop-up menus, visual cues like 3-D buttons, proportional slider bars, and an "icon dock" that allows the easy launching of commonly used applications. Among other innovations, NeXTstep utilizes Display PostScript to provide accurate WYSIWYG displays at all times. IBM has also licensed NeXTstep, but does not appear to be actively pursuing its use.



Open Look—developed for UNIX System V.4 (also referred to as SVR4) found on Sun stations to work as a layer over a basic windowing system like X Windows. The developers, Sun Microsystems and AT & T, wanted to avoid legal problems with Apple, so they created their own unique and enhanced look and feel.

Continued on page 55

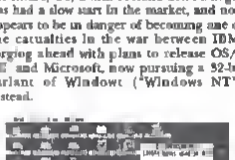
Continued from page 54

OSF/Motif—an alternative to OPEN LOOK developed by DEC and Hewlett-Packard for the Open Software Foundation (OSF) version of UNIX that encourages third-party software developers to customize their own icons.



Microsoft Windows—a multitasking, windowing environment on the PC that was first (pre)announced in 1983, finally achieving mass acceptance with the release of Windows 3.0, six years later. Earlier versions used a clumsy mechanism called MS-DOS Executive to run non-Windows programs and lacked support for the current version's "Standard" and "386 enhanced" modes. Hence if an application designed for an earlier version of Windows is run under WIN3, it must be run in "Real mode," severely limiting the use of additional memory and other advanced features. *See The Computer Paper*'s Oct '91 issue for more about Windows.

OS/2 Presentation Manager—the GUI to IBM's OS/2 operating system. Once touted by Microsoft as the operating standard of the future, OS/2 with Presentation Manager has had a slow start in the market, and now appears to be in danger of becoming one of the casualties in the war between IBM, forging ahead with plans to release OS/2 2.0, and Microsoft, now pursuing a 32-bit variant of Windows ("Windows NT") instead.

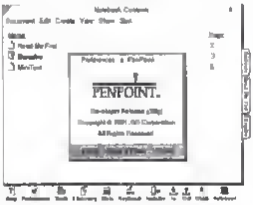


GEM/ViewMax—Digital Research's graphics environment manager (built into Atari ST/TT computers and available as add-on software for DOS) was the subject of a threatened lawsuit by Apple a few years ago for its strong similarity to the Mac's look and feel. DR settled out of court, changing the environment's look and feel substantially, by removing Mac-like visual cues such as a trash can and drive icons from the PC version of the so-called GEM Desktop. Interestingly, these crippling changes were never made to the Atari version. Although GEM (now, in its fourth incarnation on the PC, inexplicably renamed ViewMax) has become more sophisticated over the years, it has been greatly overshadowed by the more capable and popular Windows environment. (One of the primary architects of GEM and Ventura Publisher recently released Fractal Design Painter, a natural media paint program for the Mac and Windows. See "Is It Art Yet?" in this issue for more details.—*Ed.*)

Although GEM is essentially dead on the PC, ViewMax (now bundled with DR DOS 5.0 and 6.0) carries on its heritage. The versions of GEM in ROM on Atari STs and TTs now have little in common with the original.



Intuition/AmigaDOS—a multitasking windowing environment on the Amiga. The newest version of AmigaDOS, 2.0, has just been released and sports a NeXT-like 3-D look and advanced interprocess communication capabilities. AmigaDOS shares many similarities to UNIX systems, including the ability to use graphical icons and a command line at the same time.



PenPoint—as of this writing, the first pen based portables using GO Corp.'s operating system/GUI are not yet released, but based on what we've seen so far, PenPoint is the most sophisticated, user-friendly operating system ever. Key features include a scalable user interface with true WYSIWYG that can be as easily applied to a handheld as to a chalkboard-sized screen, modeless operation (i.e., you can write, cut or paste in an inactive window or send a document to fax or printer at any time, if the device is not connected, the request is simply stored until the appropriate resources are available), and an object-oriented design that allows the transparent use of multiple data types in a single document. Best of all, it understands gestures like hand-printed letters, pressure, etc. It remains to be seen how PenPoint will fare against Microsoft's also-forthcoming PenWindows, but its interface and underlying OS mechanisms are clearly superior to those of Windows.

Others—there are plenty of other graphical user interfaces available, too, including (but not limited to) GEOS for the Commodore 64/128 and Apple II, NeoDesk for the Atari ST/TT, and GSOS for the Apple IIgs (based on the Macintosh Finder). For the PC, there's Tandy DeskMate, PC/GEOS (based on Motif), HP NewWave (based on Windows 3.0) and the character-based DesqView 386 (an X Window-compliant version has just been released).

Xerox has just released its GUI, GlobalView. More than just a GUI, it is a complete network user environment. In addition to scroll bars, buttons, menus and icons, other features come integral to the software.

Other UNIX environments include NeWS (Sun's original GUI) and Wang FreeStyle.

Continued on page 56

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Which programs should I buy for my GUI?

Human/computer interface designers are setting standards for GUIs. In particular, there are proceedings from the CHI Human Factors in Computing Systems Conferences published every year to guide designers. However, designers are still learning what works for users by observation and experimentation.

Your criteria for making your buying decisions should include consistency, simplicity and affordability. If you feel that the software application meets these standards, then go ahead and make the changeover from your character-based applications.

Be cautious when choosing applications for Windows 3.0, as software developers are hurriedly porting their applications to this GUI. Many developers are not yet experienced in the style guides of Windows, as many are still struggling with the same obstacle as you are relearning a hard-learned skill. Compare GUIs in the same classes of applications, e.g., Ami Professional to Microsoft Word for Windows, to get a feel for the differences of quality and function between applications.

Interface designers will someday be to computing what poets are to writing and actors are to theater. There are only a few who call interface design their profession, generalists such as programmers, graphic artists and writers are doing their best but it may not yet be good enough.

How long will it take to learn?

The TRS study is very optimistic about the self-teaching/exploration potential of GUIs. They believe that little or no specialized training is involved, only the user's enthusiasm toward the GUI is needed. But it is still too early in the art of human/computer interfaces to have quantifiable results. We may discover that there is no mean to the learning curve, that it is a lifelong creative process to develop beyond the basic functions of cut, paste, copy and enter.

Perhaps we will discover that some languages ease the mastering of GUIs better than others. For instance, the pictorial characters of the Japanese kanje may give an advantage over the Western alphabetical characters in learning to use GUIs.

Maybe GUIs employ different parts of our brain that have been inactive; that left-handed users learn GUIs faster than right-handed users, or, that GUIs are still not interactive enough to make learning easy for users.

One thing that we can be sure of, however is that the computer industry is decidedly moving in this direction. It is still up to users whether they choose to join them, or if they will wait until the right interface (perhaps, not yet invented) comes along.

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Catheiynn Lehanti-Smith is a freelance computer journalist. You may reach her at ComputerSmiths 224-5242 fax 224-5247.

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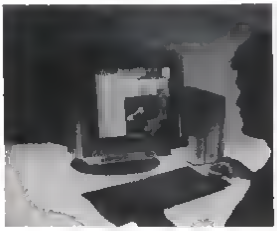
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Sun Microsystems Inc. is the world's leading supplier of client-server computing solutions. The product range includes everything from affordable, entry-level color workstations to enterprise-wide data/compute servers.

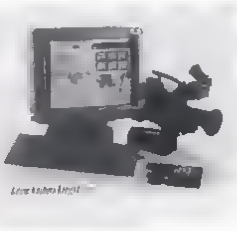
Sun has been the world's leading supplier of high-performance graphics workstations and they continue to ship more workstations than any other vendor.

Their primary market specialties include mechanical CAD, electronic CAD, financial analysis, software development and CASE, as well as publishing. Sun also enjoys a commanding lead over other workstation vendors in supplying computing and development solutions to the academic community. Along with their third-party developers program, Sun also provides solutions for medical imaging, document and image processing and other scientific visualization needs.

Sun's workstations are based on SPARC processors, an open architecture developed by Sun Microsystems. ❐

Silicon Graphics

Silicon Graphics Inc. 2100 N. Shoreline Blvd., P.O. Box 7311, Mountain View, CA USA 94039-7311 Tel (415) 960-1980



Silicon Graphics is the leading manufacturer of visual processing computer systems. The company specializes in providing 3-D graphics, color and real-time animation solutions to technical and scientific customers. Their computers are tailored for designers, data analysts and creative professionals.

SGI also licenses its proprietary hardware and software technology to other computer vendors for their graphics subsystems.

Silicon Graphics computer systems are found primarily in the areas of real-time/visual simulation, scientific visualization, conceptual design and animation/movie production. The company can provide a series of products ranging from an affordable desktop personal graphics workstation to a multiprocessor graphics server.

All Silicon Graphics computing systems are based on Mips processors and SGI provides ACE-compliant hardware. ❐

Data General

Data General (Canada) Inc., 2000 Argentina Road, Plaza 5, Mississauga Ont. L5R 2R7 Tel (416) 567-8340 Fax (416) 567-8620

After several slow years, Data General has bounced back into a leading position in terms of earnings, among computer vendors. Providing both proprietary and open systems computing solutions, DG offers a comprehensive line of RISC-based UNIX workstations and servers to work in an integrated and networked environment. DG is strongest as a vendor of computational and data servers.

Data General is placing an emphasis of its expertise in the medical field, both in imaging and administrative software. Other prime markets include publishing, CAD, CASE, financial analysis and document processing.

DG is a member of both rival UNIX organizations, OSF and UI, to ensure its position as the premier open systems company. All UNIX systems employ the Motorola 88000 family of RISC computers. ❐

Xerox

Xerox Canada Inc. 5650 Yonge St., North York, Ontario M2M 4G7 Tel (416) 229-3769

At once, Xerox is both a relative newcomer and an oldtimer in the workstation industry. Xerox has had proprietary workstations for a number of years and has recently introduced a new line of RISC workstations based on Sun's SPARC processor.

Additionally, the workstations run their GlobalView operating system, something Xerox likes to call a Network User Interface. While it also allows a user to run SunOS or DOS applications elsewhere on the network, GlobalView is focused on document processing.

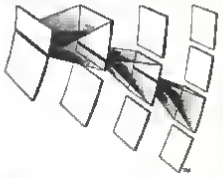
And that is Xerox's niche in the UNIX workstation industry: document processing, management and publishing. Dynamic data exchange, compound documents, hypertext referencing and multimedia abilities are all built into the software.

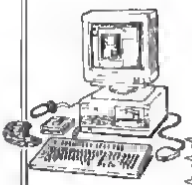
Xerox believes that the better part of business is dealing with documents, so that's what most workstations should be dealing with, too. ❐

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Personal Workstations

by William Barr

Cheap UNIX For Your Desktop

Over the past two years, workstations have slowly become commodity items. As competition between the vendors to provide more price/performance became intense, prices dropped. This had caused two effects.

First, it put pressure on personal computer manufacturers to lower the prices of their high-end equipment. For a while, you could actually buy a workstation that could dramatically outperform a personal computer, for less money.

The second thing that happened was a new market opened up to be taken advantage of. This was a group of people somewhere between the power PC group and the workstation set. Today, that line has become even more fuzzy. As a result, many companies are now offering products to appeal to this power niche.

SPARCalikes

If imitation is the sincerest form of flattery, Sun Microsystems should be tickled pink. However, for their sake, I hope they don't end up in the red.

When Sun developed its SPARC RISC chip several years ago, it made the specifications publicly available. The theory was that if this was done, SPARC clones would start to develop a huge software market much like the PC clones did for IBM. Sun hoped that by being able to stay ahead of the clonemakers on a technical basis, they could still remain profitable.

The first SPARC clones started appearing last year. By this time, Sun had already abandoned the SPARC 1 as its primary workstation and developed a faster version. It also introduced a low-end product.

The clones, made by familiar names such as Tatung, DTK, and Fujitsu, were slow to catch on and all offered something different.

For example, Mars Microsystems' Mariner 4i is a SPARCalike based on the PC AT architecture, not the traditional SPARC VME or S-bus. Mars states that the unit is best for a transition between DOS systems and UNIX/RISC systems.

TriGem manufactures the BriteLite, a SPARC laptop that runs UNIX, DOS and Macintosh software. While not the only portable SPARC, it is the most versatile. (This unit is sold in Canada by Epson Canada.—*Ed.*)

Tatung, Opus and Solarix all offer systems faster than the SPARC 1 as well.

Sorion 7ms Performance

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To keep their share of the low-end market, Sun has also introduced several systems to sell in the $5000 to $10,000 range. Even so, with all these clones and originals running at 12 to 18 MIPS one wonders about the price/performance value when a Mac II or a 486 can deliver similar performance.

Another problem is compatibility. The SPARC license is for the SPECIFICATION, not the IMPLEMENTATION. The problem is that since the Memory Management Unit is not on the same chip as the CPU, each licensee's implementation will be different. This can cause problems. Of course, the solution to this is to either try out your software (maybe the developer has already done that) or find out if the particular clone is SPARC International Certified.

The third problem is support. The clonemakers are treating the SPARCalike market like the PC market and their supply isn't the case. Third-party support, service contracts and technical support is scarce and the manufacturers are having a hard time finding dealers with sufficient UNIX experience. Hoping to make it by cutting price, some won't be able to keep technical support on such slim margins.

As always, if the buyer wants to save a buck, they better beware. But, regardless of the turnout, having more companies selling SPARC technology will help keep the architecture the dominant one in the workstation industry for at least a few more years.

Power PCs or Personal Workstations

The second company to see a blurry distinction between high-end PCs and low-end workstations was NeXT. Headed by Steve Jobs of Apple Computer fame, NeXT saw a need for something more than just a personal computer.

The result was a sleek-looking and sleek-performing computer that provided great value, and still does. With a complete suit of multimedia and fine graphics capabilities integral to every system, two years after its introduction it still is the low-end package to beat.

Without a doubt, novices and veterans alike claim that the NeXT has the easiest to

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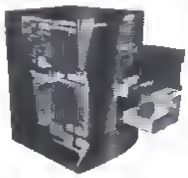
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nse version of UNIX available. Jobs contained this with lots of memory, plenty of disk, a huge bundle of software, a fast CPU and a graphic user interface that remains the best in the business for a price less than either a Mac II or a '486. However, up until now, sales have been slow.

Since NeXT has begun selling direct sales have risen and NeXT is landing more big sales. With a product line priced between $5000 and $10,000, NeXT offers a range of personal workstations for those who need most of a UNIX workstation's performance without all the problems of a UNIX system.

Emphasis on Graphics

Silicon Graphics, a company that has developed a formidable reputation as a sophisticated graphics computer manufacturer, has also recently entered the personal workstation market. Traditionally, SGI has sold excellent and expensive, graphics intensive hardware. In fact IBM licensed SGI technology for its RS/6000 graphics sub-system. In the high-end 3-D market, SGI is the company to beat.

It's newest product, the Indigo, is based on the Mips R3000A RISC processor. Featuring 3-D graphics, DAT quality audio and real-time video capabilities with a performance rating of 30 MIPS, SGI offers the whole package for less than US$10,000. Only having seen a brief demonstration of its capabilities, it seems that a lot of SGI's big system hardware has found its way into the Indigo.

It did graphics that a personal computer, no matter what you buy for it, simply can't do (nor a lot of workstations, for that matter). With built-in audio-video support, the Indigo becomes a serious contender for mid-range multimedia production.

What A Bendwagon!

Sun, SGI and NeXT aren't the only ones in the cheap UNIX field, either. (See What's New this issue, for news on Commodore's Amiga 3000UX. Atari is also expected to release a low-cost Unix machine in the coming month. —*Ed.*)

Expect to hear HP, IBM, DG and DEC all announcing low end, RISC-based personal workstations very soon. Word on the net is that all of these TBA machines will be priced between $4000 and $10,000. Earlier this year, I heard a vendor say that by the summer of '92 you will be able to buy 50 MIPS for $3000.

So, if you are thinking about upgrading to that 486, just wait a few months. Some really exciting deals are in the works. ☐

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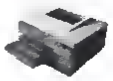
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Comdex/Fall'91

From NewsBytes

Best Thing At This Comdex Is Furniture

LAS VEGAS NEVADA, OCT 22 (NB)—Every year in Comdex I try to find something really neat and nifty, often from a previously unknown firm, something I can recommend wholeheartedly. Last year's discovery was the NewTek Video Toaster—this year, it's furniture. (NewTek was at this year's Comdex, too, showing a PC version of its Video Toaster. Details next issue—*Ed.*)

You read right—furniture. Not just any furniture, of course. But a small company called Formtec, in Montreal, Canada, rolled out a line called the "Command System" which must really be felt to be believed. It's modular, with the desk fitting inside a box measuring 2- by 18- by 36-inches, which you put together. It is adjustable to any user, and it is designed to relieve both carpal tunnel syndrome or other repetitive stress injuries, and the lower-back pain you get from sitting at a keyboard all day. The desks, or "Command Centers," are cornered so all components are close to the worker, and an office environment can be setup with desks against walls, or against each other.

But here's the best part. The keyboard holder, which is padded, automatically adjusts 40 times during the day, so you use different muscle groups. The printer racks are designed to hold all your paper and forms, and there are little wheels in the back of the desk to hold all your wires. There is a small round stand for the mouse, and the chair—well, it feels better than that LaZ-Boy you use to watch TV.

Inventor Edward Moore says he is just now looking for distributors. The system can be bought in pieces slowly, or you can buy yourself an entire Command Center for $2,400. If you work at a computer all day this should be given serious consideration.

Contact: Edward Moore, Formtec Inc., 514-938-2262. Fax, 514-938-2265.

Comdex: WordPerfect For Windows To Ship Nov 11

LAS VEGAS, NEVADA, OCT 23 (NB)—In an atmosphere marred by failure of the video equipment and an apparent lack of certainty on the part of company officials, WordPerfect announced at Comdex that its long-awaited WordPerfect word processing software for Windows will begin shipping on November 11th.

"We are considerably late," said chairman Bruce Basdon. The product is on exhibit at the company's booth at Comdex, but apparently due to a failure of the visual display equipment was not shown at the formal unveiling.

WordPerfect President Alan Ashton said the company had hoped to be able to release the product update by the time Comdex opened, but did not make it.

WordPerfect for Windows files are compatible with files created under the DOS version, without conversion. Other file formats also convert on the fly into the Windows program. The program still does not offer an outliner or footnotes for columns.

WordPerfect for Windows carries a list price of $595 in Canada. Current registered owners of DOS versions can trade up to the new product for US$99, and will receive a special software license to run WordPerfect under either DOS or Windows on the same machine. All sales are through distributor channels, since the company no longer sells direct.

Ashton said that the company is resuming development of WordPerfect for OS/2 version 2.0d, now that the Windows version is nearly ready for release. The company says it expects to know by year-end when the OS/2 version will be ready.

Company officials also announced that WordPerfect 2.1 for the Macintosh is nearing completion. One of the interesting features of the Mac version is the ability to insert animated video clips in a document. The product should be released by the end of 1991, Ashton told reporters. The Mac version takes advantage of the features of Apple's System 7 operating system.

The company also announced a change in its licensing procedure, which, in effect, now states that if a buyer uses WordPerfect on a desktop computer and wants to use it on a laptop at home, that is legal. The determining criteria is that the program is not being used by more than one person on one machine at a time.

Interestingly, Pete Peterson, executive vice president, revealed that competitor Microsoft is a beta tester for WordPerfect for Windows. Microsoft announced Microsoft Word for Windows 2.0 yesterday in a well-rehearsed multimedia presentation at Comdex. (From what we've seen of Word for Windows 2.0, it's a killer, look for a review in these pages soon—*Ed.*)

In related news, WordPerfect Publishing Corporation (WPPC) has announced that it will begin publishing *WordPerfect for Windows Magazine* in January of 1992. WPPC also publishes *WordPerfect Magazine*.

WordPerfect operates a toll-free phone (800-451-5151) for information about the company's products.

Contact: Liz Tanner, WordPerfect Corporation 801-228-5004. FAX 801-228-5077.

Look for more Comdex reports next issue—*Ed.*

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So what exactly is client-server computing? Ideally it combines a PC's ease-of use with the computing power of far larger systems. It lets people locate information on computers throughout the company—without having to know where to look, or how to get there. And it inspires workgroups to collaborate in entirely new ways.

Come see for yourself. Sun Solutions Expo, November 19-20, at the Vancouver Trade and Convention Centre is for executives and managers like you. Meet our premier business partners. See live demonstrations of hundreds of client-server solutions. Attend executive conferences and break-out sessions to learn how client server technology is changing enterprise computing.

Conference sessions will feature industry experts and leading Canadian users showing how client-server technology can work today and in the future. Break-outs will cover downsizing, enterprise networks, organizational planning, EIS, object management, software engineering, image processing and more.

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NeXT

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Founded by Steve Jobs (co-founder of Apple), NeXT offers a small range of affordable personal workstations. Using what is, arguably, one of the most user-friendly implementations of UNIX, NeXT offers two products affectionately known as "The Slab" and "The Cube."

The Slab is a slim desktop package that offers full function but physically limits expansion. The Cube offers a high degree of expansion for use as a server or more specialized applications. Integral color and multimedia capabilities make the products ideal for business.

NeXT serves a market of customers wanting something more than a "power PC". Its products are aimed at business professionals and other knowledge workers, creative professionals, software developers and the academic environment.

NeXT has also licensed its provocative graphic user interface to IBM. ❐

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The world's largest computer manufacturer is offering a new range of UNIX products in their new open systems strategy. AIX (IBM's UNIX) is available on personal computers, workstations, servers and mainframes. Using their proprietary POWER RISC architecture, the RS/6000 series spans a line of computers from desk top workstations to enterprise-wide servers. Certain models can also be equipped with additional graphics subsystems.

In addition to providing numerous business and commercial applications for UNIX, IBM is targeting the automated design, data analysis/visualization, CASE and software development, medical imaging and financial analysis markets.

IBM has been the centre of attention for the past few months after signing an agreement with Apple and Motorola to bring the power of RISC to every desktop in the '90s. ❐

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As the world's second-largest computer company, Digital supplies a range of computing equipment from personal computers to mainframe systems.

DEC's RISC-based UNIX platforms include workstations for the technical environment, servers for networked environments, and traditional commercial processing computers for timeshared applications. Employing the same processor family ensures that applications are portable across all RISC systems.

DEC workstations are well-suited for design automation (CAD/CAM), data acquisition and quantitative analysis, molecular modeling, image processing, publishing, visual simulation and financial modeling.

ULTRIX, Digital's implementation of UNIX, conforms to all standards and is the first available version of OSF/1. DEC uses Mips processors and is ACE compliant. ❐

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HP is one of the world's leading manufacturers of computational and measurement equipment. Recognized by competitors and industry analysts as making the highest quality components, HP provides a line of UNIX workstations based on both RISC and CISC technology that are the fastest workstations currently available. HP provides a range of RISC computers ranging from desktop workstations for a network to traditional multi-user, timeshared UNIX systems.

HP's primary markets include automated design (CAD/CAM/CIM), mapping and GIS, scientific data visualization and analysis, monitoring and data acquisition, CASE, modelling/simulation and image processing.

Hewlett-Packard's CISC workstations are based on the Motorola 68000 family of processors and the PA-RISC is their proprietary computing chipset. ❐

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Hard Drive Care

Ways to speed up your hard drive and protect your data

by Theresa Cuzzy

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Scan and Clean by McAfee Associates, shareware.

So, you've got yourself a hard drive, now how do you take care of it? Well, if your computer is an MS-DOS or PC-DOS computer this article will give you some ideas.

Spinrite

Spinrite, by Gibson Technologies, is a very useful preventative maintenance program available for MS-DOS computers. This program has several functions. First of all it allows you to refresh the magnetic charge and lock out bad clusters. This is important to do on a regular basis as the magnetic particles which hold your data slowly lose their charge. By refreshing the magnetic charge, Spinrite will increase your hard drive's service life and reliability. While it is refreshing the charge, Spinrite will lock out any bad or failing sectors. It will attempt to salvage and move the data from these sectors into good ones. Spinrite will update the FAT (file allocation table) with the locations of these bad clusters so that DOS will not write your data onto these sectors.

Spinrite will also test your hard drive and drive controller, as well as give the true access speeds and transfer rates for your hard drive. I do strongly recommend this program, it is well worth its price.

Both Norton Utilities version 5 or higher, and PC Tools version 7 also perform similar functions. However I would only recommend Norton Utilities version 5 as both Norton Utilities version 6 and PC Tools version 7 are reported to still have serious bugs in them. (Symantec reports that version 6.01 of Norton Utilities, sent free of charge to all registered version 6.0 owners, fixes all known bugs—*Ed.*)

Disk Optimizers

Disk optimizers, also known as disk defragmenters or disk compressors, can bring your hard drive's performance to nearly its optimum speed. To understand why they can do this it is necessary to understand how DOS stores files. To make the best use of disk space, an operating system may split a file into several fragments to fill the various empty clusters left by previously deleted files.

For example, say you have five 20 KB files on your hard disk and you delete the second and fourth files. Then you would have a 20 KB file, a 20 KB empty area, a 20 KB file, a 20 KB empty area, and finally a 20 KB file. Then you create a 40 KB file, the operating system will split it into two 20 KB sections in order to fill the two 20 KB empty areas. The problem with this is when the computer has to read this file, the hard drive's heads have to move twice instead of once, thus approximately doubling the access time. This file splitting is known as fragmentation, the more delerious and creations that are done, the more fragmented the drive becomes.

Disk optimizers do two things, first they defragment your files so that each file is in one contiguous block, and secondly they optimize free space by moving it to the end of the disk. This can result in a significant performance gain in a previously heavily fragmented drive.

The first time you run one of these, it may take a while, especially on an XT, but if you run it regularly it will only take a few minutes. Personally I run my disk optimizer monthly. There are several points to remember first of all, any disk caching software that did not come with your disk optimizer must be unloaded. Failure to do so may result in data lost. The second point to remember is that disk optimizers come in two basic varieties: safe and dangerous. The safe ones, such as those that come with Norton Utilities and PC Tools, update the FAT every time they move a cluster so that if the power goes out, at worst you lose a cluster. The dangerous ones do not update the FAT until they have moved all the clusters, thus if the power went out it could cost you all your data!

Thus if you are using an optimizer that does not update the FAT until it has finished, you should back up your hard drive before running the optimizer. Better yet, buy one of the safe ones.

Disk Caches

Another way to speed up your hard drive is by using a disk cache. A disk cache stores the most recently read data in memory, thus when the computer needs to reaccess that data it reads it from memory instead of the hard drive. Since memory access times are in the order of 80 to 120 billionths of a second, while hard drive access times are in the order of 9 to 28 thousandths of a second, it can be seen that performance increases can be significant.

The actual performance increases depend on several factors. The size of the cache is a key factor; generally the larger the cache the better the performance, with 256 KB being the minimum effective size. Performance varies with the type of program you are running at the time. Disk-intensive programs, such as databases and grammar checkers for example, will see the greatest performance gains.

There are several points to note about disk caches. First of all, only run one disk cache program on your hard drive. If you run several different disk cache programs it could result in data loss. Second, a disk cache is only feasible if you have extended or expanded memory. Disk-caching software comes with Norton Utilities and PC Tools, as well as with MS-DOS/PC-DOS versions 4.00 and up.

Crash Protection

There are several ways to protect or recover your data if your hard drive crashes. And of course Murphy's Inverse Law states that the better prepared you are for a given emergency, the less likely the emergency will occur. Even if it does occur, proper preparation will drastically reduce your down time.

Second only to regular backups, which will be discussed later, a crash recovery disk is your most important crash recovery tool.

Continued on page 63

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Continued from page 62

A crash recovery disk is a bootable disk which contains all the programs necessary for repairing a crashed disk, restoring the partition table and FAT, restoring the drive to bootable condition, and detecting and destroying any viruses. The exact contents of your crash recovery disk will vary with which brand of disk utilities you use. If you use MS-DOS 5, you will find that it contains most of the programs you need to put together a crash recovery disk.

Regardless of its specific contents, the crash recovery disk should contain software that will perform the following functions. With each function I will give the name of the specific program, which are mostly from the PC Tools disk utilities, that I use to perform it. I should add that other disk utilities, such as Norton Utilities, have equivalent programs.

1) Partition Table information should be saved on your crash recovery disk. If the partition table is lost, the computer will not be able recognize the hard drive. If you have saved this information on your recovery disk, you can easily restore the table in minutes, otherwise you would have to repartition and reformat the hard drive then restore your backup, which could take up to several hours. I use the PC Tools Mirror program (on the hard drive) to save the partition table, and the PC Tools Rebuild program (on the recovery disk) to restore it.
2) Directory, FAT, and Boot Record information should be backed up to the last cluster of the drive. This is referred to as mirroring. This allows this information to be restored in event of a disk crash. Again, I use the PC Tools Mirror program to back up this information and the PC Tools Rebuild program to restore it.
3) Disk Repair programs. This would consist of at least two disk repair programs, which allow you to diagnose and repair most damage that the drive has suffered from the crash. One of these programs should be CHKDSK, which comes with DOS. CHKDSK is used to clean up any lost clusters that may have resulted from the crash. The next program should be a comprehensive disk repair program. I use the PC Tools DiskFix program.
4) A file undelete program. This will allow you to undelete any file or files that you or a virus may have deleted. I use the PC Tools Undelete program. An undelete function (accessed, as a matter of fact, from the makers of PC Tools) is also available in MS-DOS 5.0.
5) Virus scan and cleanup programs. These will allow you to check for viruses after you have recovered from the disk crash. It is extremely important that you do check, since it may have been a virus that caused the crash, and the recovery process will likely have also recovered the virus. The cleanup program is used to destroy any virus found. I use SCAN and CLEAN, which are shareware antivirus programs.
6) The DOS SYS command should also be included. This will, if all else fails, reinstall the DOS system files onto your hard drive.

My crash recovery disk takes 408 KB of floppy disk space, so those of you with only a 360 KB 5.25-inch disk drive will have to split the contents between two disks. You should also write-protect the crash recovery disk after you have created it.

Backup Strategies

There are times when the hard drive has crashed so badly that the crash recovery disk cannot restore the drive. That it is very important that you maintain a current backup. Again, Murphy's Inverse Law applies, the more current your backup, the less likely you will need it. DOS comes with a backup and restore program, and while it does work it is slow and inefficient. Certainly it is better that nothing, though I recommend that you get a good backup program. Many disk utilities, such as PC Tools, come with a good backup program, and there are also stand-alone backup programs such as FASTBACK.

In any case, I recommend you test your restore program to see if it works *before* you really need it. You can do this by creating a temporary directory, copying some files into it, backing them up, deleting them, and restoring them. Furthermore, you should always treat your hard drive for viruses before backing it up. The last thing you need is for your backup to be infected!

There are several strategies one can take in backing up your hard drive. The first one is to regularly do a complete backup of the drive. While at first glance it seems like the simplest approach, it is also the most time-consuming approach. A far better approach is one full backup, followed by daily incremental backups. This insures that you always have a current backup with the minimum expenditure of time and energy.

Capacity Management

Capacity management deals with making the most efficient use of the space on your hard drive. While this is especially crucial if you have a small-capacity hard drive, it is still important for those who have 100+ MB drives. Capacity management, at its simplest level, involves the deleting of obsolete and redundant files from your hard drive.

A prime example of a redundant file is the .BAK files that many applications create. After awhile, a significant amount of hard drive space can be taken up by these files. So every few months it is a good idea to spend some time deleting these files. Other files that can be deleted are .OLD and .TMP files.

You can also free up quite a bit of space by deleting redundant program files. Most application programs as well as DOS contain programs and other files that you may never use. For example, bIS WORD contains programs to modify or make custom print drivers, I never foresee needing to do this, so I have deleted those programs. Information as to which programs or files that you can safely delete can often be found in the software package's manuals.

(A further strategy is to use one of several programs which allow you to store files on your hard drive in a compressed form. When you load the file, it is automatically decompressed, often yielding twice the effective disk capacity. Some titles that can do this include Double Disk, Stacker, and DiskMax aka SuperStar, included with DR DOS 6.0—Ed.)

Well, by now you should have good ideas on how to take care of your hard drive. While it may seem like a lot of extra work and expense, the performance and peace of mind gained more than makes up for it. ❐

Theresa Guay has 6 years of professional experience in computing. Currently she is the Technical Coordinator for both the Department of Communication and the School of Resource Management at Simon Fraser University. She may be contacted at (604) 291-3228, or though Internet E-mail at theresa_guay@cc.sfu.ca.



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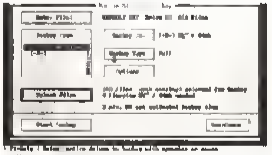
REVIEW

Backup Programs for DOS and Windows

By Steve McIlwain

For most computer users, the hardest thing about doing regular backups is doing regular backups. If you have ever done any software or hardware support you know that the most frequent answer to the question "When was your last backup done?" is—"Oh . . . a month ago." Unfortunately, most users have to go through some sort of irritating data loss episode before they start believing in doing regular backups.

Here are two backup programs that can help make backing up a daily event.



Like other Norton offerings, The DOS version of **Norton Backup** supports a mouse.

The Norton Backup Version 1.2

Product: Hard disk backup for DOS and Windows
Publisher: Symantec Corporation, 10201 Torre Avenue, Cupertino CA 95014-2132 (403)253-9600
DOS System Requirements: IBM PC, XT, AT, PS/2, or compatible; DOS 3.1 or higher; 512K RAM; mouse support.
Windows System Requirements: IBM AT or compatible; DOS 3.1 or higher; Windows 3.0 or higher, 1 MB RAM, Hard disk, Microsoft or compatible mouse recommended.
Price: MSRP $159 Cdn
Of Interest To: Windows or DOS users in need of an easy to use hard disk backup program
Key Features: Supports networks including Novell; restore files from badly damaged disks; backup verification; store up to 3.5 MB per minute; multiple-drive backups, use backup disks in DOS and Windows interchangeably; three levels of data compression; command-line parameters for selecting setup files and macros during startup; 24-character setup file descriptions; easily create macros to automate backups; select different user levels.

Key Features—Windows edition: pre-configured setup files for Lotus 1-2-3, dBASE, Word, Excel, WordPerfect; unattended backups; backup in the background; backup up to floppy drives, network servers or any DOS device.

Overview

Hard disk backup is done using preset option files that contain your file selections. You can include or exclude files of your choice in your backups. You can create backup cycles by choosing from five available backup methods to get the most efficient backup cycle for your situation. A backup catalog is made for each backup and a master catalog continuously integrates all the catalogues from a backup cycle (e.g., a full backup followed by incremental or differential backups) until the next full backup is done. You can restore files to any drive or directory by selecting them from the backup catalog. You can preset restoring options to restore only certain files.

Norton Backup is simple to install, configure and do backups with. So one can feel safe in recommending this package to novices. Novices should have no trouble installing and configuring this program correctly. Supervisors can administer backups using setup files and macros that any user can carry out in two or three

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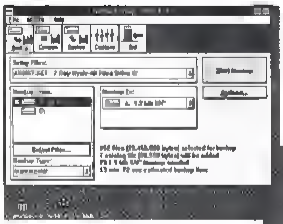
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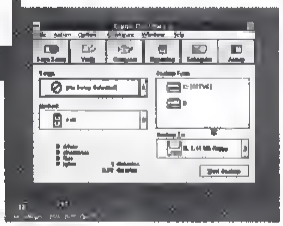
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Norton Backup for Windows can backup up to floppy drives, network servers or any DOS device and comes with pre-configured setup files for Lotus 1 2 3, dBASE, Word, Excel, WordPerfect.



Novices can easily configure **Central Point Backup** and selecting files to backup is easily done using the directory-tree/file display. The Windows version (shown here) can backup as a background task.

keystrokes. The documentation also helps you set up the best backup strategy for your situation.

Norton Backup specializes in backing up hard drives to diskette. If you are looking for software to use with your tape drive, you will not find it in this package. This would be a good addition as some tape software is frustrating to use. I probably would use Norton Backup with my tape drive if it supported tape drives. The Windows edition allows you to backup to a tape drive only if it can be configured as a DOS device.

Norton Backup for Windows has a few more features and is a more complete backup program. Some Windows features such as a backup scheduler and unattended backups are missing in the DOS edition. The omission of an unattended backup feature in the DOS edition may be a major limitation to some.

If you are looking for an easy to use backup program that specializes in backing up to floppy diskettes, you should look at Norton Backup. From installation to full backups, this program takes the pain out of backing up.



Central Point Backup Version 7

Product: Hard disk backup for DOS and Windows
Publisher: Central Point Software Inc., 15220 N.W. Greenbrier Pkwy, Beaverton, Oregon, 97006 (503)690-8090
System Requirements: IBM PC, XT, AT, PS/2 or 100% compatible, DOS 3.0 or higher, 640K RAM, Hard disk, supports Microsoft mouse drivers version 6.14 or higher, Logitech/Dexxa mouse drivers version 3.4 or higher. Central Point Backup for Windows requires Microsoft Windows 3.0 or higher, running in standard or enhanced mode and 2MB RAM.
Price: MSRP $159 Cdn.
Of Interest To: Windows or DOS users in need of a full featured hard disk backup program.
Key Features: Unattended backups; stores up to 7 MB per minute; multiple-drive backups; use backup disks in DOS and Windows interchangeably; five diskette backup methods and two tape backup methods; backup verification; error correction; data compression; recover data from damaged diskettes; virus detection; translates Fastback Plus and Norton Backup setup files; supports most popular tape drives; network compatibility with Novell version 2.12 or higher and PC LAN networks; start backups or restores from DOS command line; backup in background (Windows only); select different user levels.

Overview

Files to be backed up are chosen from a directory tree/file display. You can save file selection in setup files for future use. You can include or exclude files of your choice in your backups. Backups can be made to diskettes, most popular tape drives or any DOS device. You can create backup cycles by choosing from five available backup methods to get the most efficient backup cycle for your situation. You can restore files to any drive or directory by selecting them from the directory tree/file display of the backup history. You can preset restoring options to restore only certain files.

Central Point Backup installs easily to your hard drive or network drive. Novices can easily configure the program, and selecting files to backup is easily done using the directory-tree/file display. The documentation is helpful in developing the most efficient backup strategy for your situation.

The install program allows you to install both the DOS version and the Windows version as if it was a single program. As well, the two programs are compatible in the interface, setup files and file formats. Scheduled backups and unattended backups to a tape drive or another hard disk are available in both the DOS and Windows editions. If you install both the DOS and Windows editions and enable the schedulers, scheduled backups will run no matter what operating system (DOS or Windows) you are in. These features make Central Point Backup a good choice if you want to back up from both DOS and Windows.

Central Point advertises that the program stores up to 7 MB per minute whereas Norton Backup advertises 3.5 MB per minute. However, in testing, Central Point Backup was only a few seconds faster than Norton.

If you are tired of the software that came with your tape drive, you might consider Central Point Backup. It is a lot more flexible than most tape software programs. Another consideration is that if you do not have a tape drive, you can later add a tape drive to your system and still use Central Point Backup instead of learning a new tape software program.

Central Point Backup is an easy to use full-featured hard disk backup program that has few limitations. ❐

Steve McIlwain is a senior partner in ISR Software Review Corporation, a company specializing in independent testing, evaluation and review of DOS-based products. For further information, phone (604)538-0517.

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Computer Viruses: what are the risks?

By Gordon Young

"When a fool has cast a stone into the river, ten sages cannot bring it back."
—Chinese Proverb, 5th century B.C.

If you own or use a computer you are at risk from computer virus attacks. Your hard disk would be the target. A hard disk crash caused by a computer virus can be a complete catastrophe

Your hard disk can represent hundreds of hours of your work. It can be vital to your job or business. It may contain data unrecoverable from any other source. A computer virus attack can destroy in seconds the work of years. Ignoring the virus threat to your hard disk is like indulging in unsafe sex in the age of AIDS.

What is a Computer Virus?

A computer virus is a computer program written as a prank, joke or as malicious sabotage. They don't belong in your computer. Like biological viruses, many of them replicate themselves. They all are started and spread by humans.

It doesn't require great genius to write virus programs. Viruses are typically simple programs though there are very ingenious ones. Creating a new virus requires as little effort as slightly modifying an existing virus. This can make the new virus undetectable to detection packages.

The damage done by viruses is limited only by the warped imagination of their creators. They damage data by erasing it, losing it, hiding it, bloating it, or even encoding it.

An example—one virus is WordPerfect specific. As text files are processed the virus encodes and decodes them, once many files have been encoded the virus destroys itself, taking the key to the code with it. The files left are garbage, as are the back-ups, and all the word processing work is lost.

Computer Virus History

The idea of viruses is almost as old as computers themselves. The first working virus recorded was an experiment in November 1983. Since then hundreds of new viruses have appeared. More than six hundred viruses and variants are known, there are sure to be more unknown.

Computer viruses may have been used as weapons of war. Many of them come from the Middle East. They may have been written by one side or another to attack the opposition's computers. Imposing a state of virus paranoia forces an enemy to waste time and resources on anti-viral defences.

Western Canada's Virus Venue

Western Canada does have a problem with computer viruses. There are an estimated ten to fifty virus hits in Vancouver a week. Most BBSes have an anti-virus section.

The R.A.V.E. (Rock Anti Virus Experiment) board specializes in anti-virus. An excellent collection of PC anti-virus software and information is backed up by an anti-virus message board.

Windows for Disaster

The widespread acceptance of Microsoft's Windows 3.0 opens windows of opportunity for new viruses. The more complex operating system has more of the hidden nooks and crannies viruses use for camouflage and concealment. The GUI interface distances users from the actual actions of the computer: more sneaking skullduggery is possible.

I came across a rumor of a Windows-specific virus on a BBS. Called BART.EXE it promises to produce a picture of TV character Bart Simpson. Instead it is a Trojan horse virus that attacks the hard disk. This is the crudest, simplest type of virus. The progress of technical advance assures more sophisticated Windows-specific viruses will appear.

Word Processing Text File Trojans

Pure text files, like READ ME files or files full of numbers, can contain Trojan horse viruses. Using ASCII control characters, text viruses reprogram your ASCII driver program. The reprogrammed ASCII driver then sends destructive commands to the rest of your system.

Text trojans characteristically contain ASCII control characters where there should be none. Attacks of these evil programs usually start with keyboard lock-up. Lock-up is followed by other suspicious activity. If this happens, follow instructions on "When a Virus Strikes." (See page 72—*Ed.*) Shut off the computer immediately.

Continued on page 67

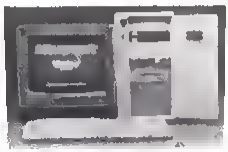
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Continued from page 66

Protection

The effort you put into anti-virus security should depend on your level of risk. If you use a computer isolated from other machines, a hard disk loaded with shrink-wrapped software only, if you never transfer files electronically, and you never, never, use anything but new, virgin diskettes, then you are as safe as you can get.

At the other extreme: if you are involved in a large organization where diskettes are constantly swapped between many computers, where files are transferred to and from hard disks, and different people switch between different machines, then you are at very high risk. Schools and large government offices are like this. If diskettes are going back and forth from your personal computer and a school or office like this you are at risk.

There is a definite nuisance factor to virus protection. Many anti-viral measures are undeniably effective. But they take up time, effort and resources. Like flossing after every meal or doing two hundred pushups a day, there's no doubt it would be good for you. There's also no doubt few humans are going to do it.

Virus protection is a problem of probabilities. Nothing can make you and your disks 100% secure. But each and every measure you adopt cuts down your risk. See my list of Do's and Don'ts and decide how much effort you want to expend.

Many different packages, both shareware and commercial, shrink-wrapped, protect against computer viruses. Really thorough protection requires more than one package. Different packages use different strategies, covering each other's weaknesses. Many new viruses are designed to dodge detection—a virus missed by one package might be detected by another.

Not all packages are fully compatible with each other. Protecting you from viruses, anti-virus packages often operate on virus-like levels. Packages can sense each other and set off each other's alarms, freezing your system.

Shareware and shrink-wrapped packages both have relative pros and cons. Fear of contracting viruses from electronic file transfers drove the shareware world to develop virus defenses. From this world come the most established and reputable packages. Electronic updates keep them current as new viruses continuously emerge.

Shrink-wrapped commercial software is arguably more secure. When security is the objective, getting the software sealed direct from the manufacturer is valuable. But without updates commercial anti-virus software loses its edge as new viruses emerge. And, of course, it's usually more expensive.

I don't have room to rate all the packages. Robert Slade has a good set of reviews on the Doppler BBS. The August issue of *Byte* magazine has a comparison review of popular packages. The October issue of *PC Magazine* has a comprehensive review of commercial packages.

I'll rate three packages: Disinfectant for the Macintosh, F-Prot versions 1.16 and 2.00 for the PC, and Central Point Anti-Virus as a separate product review.

For the Macintosh, John Norstad's Disinfectant is a free shareware package available on many BBSes, including Doppler, Rave, CompuServe and Appletalk. Frequently updated, it features easy operation by standard Mac pull-down menus and buttons. *Byte*'s review rated it as effective for the Mac as McAfee's ViruScan products are for the PC.

For the PC, one of the best is one of the cheapest. Fridrik Skulason's F-Prot is the scrappy new kid on the block among anti-virus packages. Use of F-Prot is free for individual users and $15US per year per computer for organizations ($20 US minimum). Along with its rock-bottom price, it has a remarkable habit of finding viruses other packages miss.

F-Prot 1.16 is a diamond in the rough. It provides a full spectrum of anti-virus protection strategies. Installation is not automatic, but installation instructions are clear enough. Functions are partitioned into separate programs run from a DOS command line.

F-Prot 2.00 is a polished diamond. It does the right things in the right order. It first searches Random Access Memory (RAM) for memory-resident viruses, it offers the option of installing a memory-resident watchdog program. Then it scans files on the target disk for virus signatures. Once it has scanned the hard disk you can order it to auto-install.

The experts agree that F-Prot delivers the best bang for the buck of any PC anti-viral package. For the PC user interested in setting up an anti-viral security system, start with F-Prot, then experiment with adding other packages. Here "try before you buy" shareware has a distinct advantage. □

Vancouver's Virus Villains

Here is short list of the most common PC computer viruses in Vancouver and Western Canada. These four account for at least 90% of the PC virus infections in the region. Learn to recognize these and you will be equipped to deal with most attacks.

Stoned virus

Boot sector virus—very common

Aliases: Sex Revolution, Marijuana, Hawaii, etc.

Size: 512 bytes.

Method of infection: The Stoned virus stores itself on a disk's original boot sector track, moving the original boot sector track to another area.

Symptoms: When the virus attacks, your screen displays the message "Your computer is stoned" or "legalize marijuana." Your computer slows down by about one third. It's easy for a hacker to modify the message so different messages may be displayed. Damage: Directory and file allocation table (FAT) damage.

Notes: Stoned is easy to modify, so has many variants. The first version was obviously a prank, some modified versions are far more destructive.

Ping-pong virus

Boot sector virus—common

Aliases: Bouncing Ball Boot, Bouncing Dot, Italian virus. **Size:** 1,024 bytes.

Method of infection: Ping-pong installs memory-resident when an infected disk boots, hiding in upper RAM above the 640K barrier.

Symptoms: Before an attack, BIOS will report that upper RAM is reduced by 2K. When the virus attacks, a bouncing ball displays on your screen.

Damage: Upper RAM reduced by 2K and 1K of bad sectors on infected disks.

Brain Virus

Boot Sector Virus

Common Aliases: Pakistani, Pakistani Brain.

Size: 3,072 bytes.

Method of infection: installs memory-

Continued on page 72

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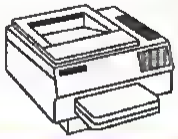
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On 5 25-inch diskettes use the little black or silver stickers that come with a package of diskettes to cover up the little notch on the side. On 3.5-inch diskettes, open the little sliding window in the corner
If you do get a virus infection you will need the original program diskettes to restore lost information and contaminated files Write protecting them ensures they will remain free of contamination
If your hard drive is contaminated, you will need to boot the system the old-fashioned way by booting from a DOS or other operating system diskette in drive A. Write protecting the operating system diskette ensures this boot is possible. You will protect the diskette from contamination when it is inserted into the contaminated system.

DO make frequent and complete backups of your hard drive
In case of a virus attack some of the damage to data on your hard drive may be irreversible Only with a recent backup can the directory structure and all the data be restored.

You might be backing up an unsuspected virus at the same time After an attack you will have a better idea where the virus is in the data structure. You could delete infected files right after restoring from a backup, before running any other programs

DO acquire software from a reputable source
Commercial shrink-wrapped packages or shareware direct from the author are safest. Shareware from mail-order houses or downloaded from major BBSes practising anti-viral security come second Least safe is getting software on a disk from someone else, or from a BBS not practising anti-viral measures.

DO acquire at least one anti-virus package.
Nothing you do short of never turning on your computer, can totally protect you. But using even one package will drastically reduce your risk level. When you first get your package, run it from a write-protected diskette to scan your computer's RAM and hard drive for infection Then use it to scan all your floppy diskettes.

DO use your anti-virus package to scan new diskettes and files for viruses.
No matter what the source, scan new material coming into your system. This includes programs used by service people, pre-formatted new diskettes, blank used diskettes, and so on

DO quarantine new software
Download files from BBSes onto floppy diskettes If a file is compressed keep it on the same diskette as you uncompress it. Your hard disk is the likely target of a virus. If a file contains a virus then quarantining it to a diskette may keep it from getting to the hard disk.
Run new commercial and shareware programs for the first time from floppy diskettes. Unless a program is a hard disk utility, running it from diskettes should leave the hard disk inactive Sound and lights from the hard drive

Continued on page 72

DON'Ts of Computer Virus Protection

DON'T swap diskettes carelessly between computers
Boot sector viruses are the most common sort of virus. They are spread from computer to computer by the transfer of infected diskettes.

DON'T use illegal copies of operating system files.
It may be tempting to upgrade to DOS 5 0 for nothing. But these files, COMMAND COM and so on, are the targets of most file virus infections Using non-secure copies leaves all your system resting on an unsafe foundation If you must steal software, steal something else

DON'T participate in a bootleg software market.
Attaching a virus to a desirable commercial product then circulating copies is a favorite ploy for the rats who spread viruses.

DON'T leave diskettes sitting in disk drives if they aren t being used.
The best barrier against virus infection is the physical separation of disks When a computer virus can leap through the six inches of empty space between my hard disk and my diskette case, I'll surrender to it. And start a new religion around it.

DON'T boot from a floppy drive if your system has a hard drive
The one exception to this rule is when you need to boot from a write-protected original system boot diskette to recover from a virus infection or hard disk crash

DON'T keep much in the root directory of your hard disk.
This directory is the target of many viruses because it contains the main system files Putting a lot of other files in the root directory makes it fertile soil for virus growth In particular, don't put new software in the root directory You might put a new virus right beside its target files.

DON'T trust hard disks loaded with software straight from the computer store Scan them.
Computer stores are vulnerable to virus infections, too. Often they load up hard disks from copies of original diskettes. There have been cases of stores unknowingly including viruses with every package deal they sell.

DON'T trust packages with named system files, such as AUTOEXEC.BAT, in them
In the '80s this was considered a convenient way to organize packages. Unfortunately, it is also a strategy for spreading viruses. It has been abandoned by software developers.

DON'T take it for granted that new commercial software is virus-free. Scan it.
There has been more than one case of new commercial software being infected. In fact, contrary to popular opinion, it may be more likely to

Continued on page 72

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Responding to a computer virus attack

As soon as you realize a computer virus is attacking your computer:

1) Turn the power off immediately! Rebooting without switching the power off is not enough to kill viruses in memory.

2) Boot the system using a write-protected copy of your system diskette. This should leave the hard disk inactive.

3) Use an anti-viral program to scan and disinfect the hard disk. If you don't have a program handy, get one before you turn the computer on.

4) Once you have restored the hard disk using back-up files, systematically work through your floppy disks, scanning and disinfecting them.

DO's *Continued from page 71*

will warn you of virus activity, particularly Trojan horse attacks.

DO prepare an emergency response diskette kit.
These are the diskettes to use if a virus attacks or is discovered. You would put them into a computer you know is infected: you don't want to use the originals. Label them clearly. Put them in one box. Label the box clearly. Put the box in a safe place where you can find it in a hurry.
Include write-protected copies of the diskettes for: 1) Your system program—DOS diskette #1 or other; 2) Your anti-viral package; 3) Your hard disk back-up package; 4) Any disk utility packages you use; 5) Any other package you can foresee helping you recover from a disk crash.

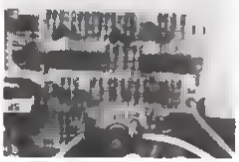
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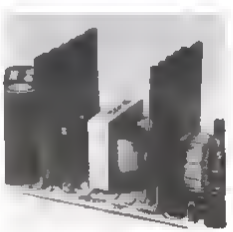




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DON'Ts *Continued from page 71*

catch a virus from commercial software than shareware. Shareware vendors and BBSes practise active anti-virus security. Commercial vendors smugly assume they are immune.

DON'T ignore warning signs.
Slowed computer performance, increased file sizes, changed file dates and times, disappearing files, garbled output, hangs, crashes, unusual lights and noises, a blurred or static-filled screen—all are signs of possible virus infection.

DON'T be too paranoid. Viruses do exist, but more data has been lost by spilled cups of coffee than will ever be lost to virus attacks. Following these instructions will lower your risk drastically. ❐

Villains *Continued from page 67*

resident when an infected disk boots.

Symptoms: Extended boot time; message in disk boot sector: "to all the viruses that are no longer with us." Disk volume label may change to "(c) Brain."

Notes: Brain, originating in Lahore, Pakistan in 1986, was the first boot sector virus discovered. It is very damaging when it attacks. One variant, the Clone B Virus, is a time bomb. It is set to go off after Tuesday, May 5, 1992, scrambling infected disks' File Allocation Table (FAT) and rendering them useless.

1260 Virus

File Virus—Exists in Vancouver
Aliases: Casper, V2P1
Size: 1,260

Method of infection: Infects .COM files, including COMMAND.COM, increasing their size by 1,260 bytes. Very virulent as it spreads through a disk's files, it practises randomized self-encryptation: every infection looks different. This strategy avoids detection by string checker scans. It refrains from infecting files twice by labelling infected files. Changing the seconds label in the time field to 31, it assumes files with that label have been infected.

Symptoms: .COM files increase in size by 1,260 bytes. A crowded disk may run out of space. .COM files on an infected disk don't match those on original program disks.

Damage: Wasted disk memory.

Notes: This virus, originally designed in 1990, was an experiment to prove self-encryptation was possible. Within hours the monster escaped from the lab and spread wildly through the University of Minnesota's computers. It has since become a pest worldwide. ❐

GRAPHICS

Is it Art Yet?

by Graeme Bennett

Products mentioned
- Adobe Photoshop
- Aldus SuperPaint 3.0
- Aldus PhotoStyler
- Fractal Design Painter
- NEC MultiSync FG monitors with AccuColor control system
- Wacom SD510-C pressure-sensitive tablet
- Apple ScanOne grayscale scanner
- Hewlett Packard ScanJetC color scanner

If you thought all art created with a computer had to look like it was created with a computer, guess again. With new developments in both hardware and software, the only time you get that sterile clip-art look or those tell-tale jaggy "digital bitmap" edges is when you want them.

Several factors contribute to this revolution in computer graphics, not the least of which is the trend toward "true color," high resolution displays of millions of colors, allowing virtually infinite subtlety of shading and hue.

True color is usually defined as 24-bit color, where the 24-bit video card can permit a monitor (of sufficient size) to display up to 16.7 million colors simultaneously. Of course, on average monitors, there aren't 16.7 million pixels, hence the number of displayable colors will vary. There is an important difference between this and having a palette of thousands or millions of colors. VGA and Super VGA "8-bit" displays, for example, have a palette of 262,144 colors, but can typically only produce 256 colors on-screen at any one time. A 24-bit display with sufficient resolution allows true photographic realism—hence the term "true color."

(24-bit displays are also available for higher-end Macintosh and Amiga models. All Amigas and the NeXTstation color support 12 bits of color, or 4096 simultaneous colors. The NeXTdimension supports true 32-bit color.—*Ed.*)

Thanks for the (Virtual) Memory

Of course, all those colors come with an associated cost, both in dollars and in performance. Even with a top-of-the-line 40MHz CPU, working on a 15 megabyte bitmap is S-L-O-W. And hard disk space? Programs that support these giant images usually do so by implementing a "virtual memory" (VM) scheme. If, for example, the computer you are working on has 8MB of RAM, and the image you are working on is 15MB (a typical size for *The Computer Paper*'s cover illustration), the computer loads as much of the image into RAM as possible, and treats the hard disk as "overflow" memory for those portions of the document that won't fit in the available RAM. It is not uncommon for these temporary "swap" files to be triple the size of the original image. For our 15MB example then means keeping 45MB of VM working space available on the drive. Of course, swapping portions of this giant file in and out of memory from a hard disk is not as fast as keeping it all in RAM, but have you priced 45MB of RAM lately?

For those programs that do not implement VM, there is the possibility of using VM if you are running Windows 3.0 (or higher) in 386 enhanced mode, or running a Macintosh capable of using System 7's VM feature, or Connectix Corp.'s Virtual Unix and OS/2 users may also take advantage of their platforms' built-in VM abilities.

System-level VM, however, requires the computer to have what is called a PMMU, or paged memory management unit. These are

Continued on page 74

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usually built into the CPU, as in the case of 386 and 486SX/DX and Motorola 68030/040, although the original 68020-based Mac II required a separate PMMU chip called a 68851 to use VM.

With VM and greater processing speeds, the higher-powered CPUs are well-suited for use with large or complex graphical images.

Some applications implement their own VM scheme. Adobe PhotoShop, for example, supports VM on all machines that the program runs on, whether or not they have the usually-mandatory PMMU. This allows Macintosh LC or even Classic owners to manipulate graphics larger than their available RAM. They just need more patience and, in the case of users with monochrome monitors, enough imagination to work with grayscale or 24-bit color images.

Color Fidelity

Despite the advances in monitor and display card technology, it is still very difficult to ensure that the color you see on-screen will be the same color you get when you print out the final product. The key to producing repeatable, reliable results is called calibration, where some sort of feedback loop is established between the output device and its input signal.

Different manufacturers approach this onerous task differently. Radius, RasterOps and other monitor manufacturers have created calibration devices that involve attaching a sensor via a suction cup to the front of the monitor. The sensor supplies a reading of the color(s) coming from the monitor, then instructs the video card to adjust its output accordingly.

Other products use methods not quite so lofty—or expensive. Some graphics and publishing programs include a printed card with various color swatches on it. The program also has a file that originally created this printed result. The idea is to adjust the monitor's color balance, brightness and contrast to match the printed version as closely as possible.

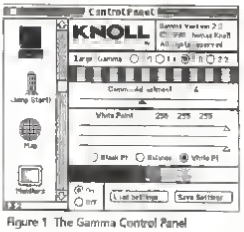


Figure 1 The Gamma Control Panel

One step above this is gamma correction, such as that provided by a control panel device supplied with Adobe Photoshop 2.0. As Figure 1 shows, the Gamma control panel allows the adjustment, saving and loading of black and white values, color balance and range of values (gamma). The software even supports multiple settings for simultaneously connected monitors. When the system starts up, the gamma software loads and automatically adjusts each monitor to its optimum setting. Photoshop comes with the previously mentioned color swatches, so that the gamma-corrected displays may be calibrated for optimum output fidelity.

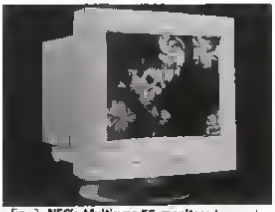


Fig. 2 **NEC's Multisync FG monitors** have color calibration controls built in. Shown is the 15-inch Multisync 4FG which lists for $1099.

NEC's new 4FG ($1099), 5FG ($1949) and 6FG ($4269) range of multisync monitors also provide a digitally controlled system designed to allow users to match on-screen colors to those obtained through output devices. The so-called AccuColor technology, incorporated in these three monitors (a lower-cost 3FGx model does not include AccuColor) is a hardware-based solution which allows for two custom settings, plus a factory setting—not as versatile as Photoshop's Gamma software, but adequate for most users. In use, the AccuColor system's front panel controls are easy and convenient to use, and allow adjustments over a full 24-bit color range. Like the other solutions, AccuColor provides a printed color chart on which the screen colors are matched.

Some other methods for obtaining output fidelity exist, too. New flatbed scanners from Apple and Hewlett Packard use a clever method of scanning output from your own printer to calibrate themselves, automatically. Too cool.

Of course, the computer/monitor/display adapter, etc... is only part of the equation. We still need to address how to get the images in and out of the computer, and what software to use.

Input Devices

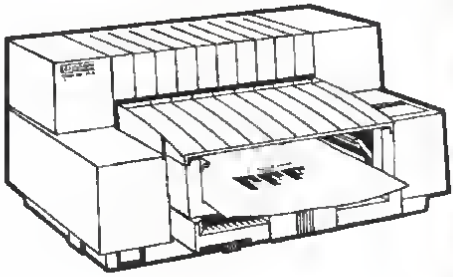
First, let it be said that the mouse is not the ideal drawing tool. An associate of mine once described it as "like trying to paint with a pound of butter." I'm not sure what he meant, but the image stuck.

Input devices vary incredibly, ranging from those designed for image acquisition

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(video digitizers, frame grabbers, and handheld/sheetfed/flatbed scanners) to pointing/drawing devices such as light pens, graphic tablets, trackballs, joysticks, and of course, the ubiquitous mouse.

Over the years, in my quest for the perfect drawing tool, I've owned virtually all of the above gadgets. As with so many other articles appearing in these pages, the theme is common one: match the tools to the job.

While a joystick might be fine for playing Pac-Man, you probably wouldn't enjoy drawing with one. Similarly, while a touch-screen or a mouse is fine for pointing at menu items or on-screen objects, neither one makes the optimum drawing tool.

Naturally, the ideal drawing device is one that mimics the dynamics of its "analog" equivalent pen/pencil/brush, etc. It is surprising to me, then, that pressure-sensitive tablets are so rare. There are only a few companies that manufacture such items, and only one that has achieved any significant market success—Wacom (pronounced wah cum). Luckily, it is a nearly perfect drawing instrument.

While many other companies make graphics tablets (Summagraphics, Kurta, Calcomp—to name a few), only Wacom's responds to the pressure of the stroke of the pen (in certain software)—opening the doors to a whole range of software that can explore the possibilities this enables.

The list of Mac/Intosh software supporting the Wacom tablet's pressure sensitivity is extensive, including:

SuperPaint 2.0 and 3.0 (Silicon Beach/Aldus)
Painter 1.0 (Fractal Design)
PixelPaint Professional 2.0 (SuperMac)
ColorStudio 1.0 through 1.5 (Letraset)
Photoshop 1.0 through 2.0 (Adobe)
FreeHand 3.1 (Aldus)

All other Macintosh software supports the tablet as if it were a mouse (without pressure sensitivity). The Mac mouse remains active.

One of our graphic designers described how she felt about the tablet, which she calls "That wonderful little Wacom pad":

"It frees the artist in me to infinite creation with Photoshop. Unbound from the jerky, lethargic moves of a mouse, I can truly paint. I find it to be the link between creating art and using a computer, one which I've never found before. The possibilities are exciting."

The Wacom tablets come in a variety of sizes, ranging from the SD-510C, a mousepad-size unit with a 6-by-8-inch active area (shown in Figure 3).



Figure 3: Painter by Fractal Design Corp. shown here with the Wacom SD-510C tablet.

through boards the size of drafting tables. We tested the SD-510C and the next model up, the 12-by-12-inch SD-420L.

Initially, I was apprehensive about the SD-510C's lower resolution, accuracy and "report rate" (the number of points per second it sends information to the computer). In each of these areas, the SD-510C specs come in at about half that of the higher models. Fortunately, I could not tell any difference whatsoever in actual use. In fact, the SD-510C's smoother tablet surface and compact and lightweight dimensions actually made it the favorite around *The Computer Paper* offices. Its small size made it feasible to use on one's lap, and it can double as a mousepad when not being used as a graphics tablet. There are several stylus and cursor "puck" options, but for most people, the two top contenders will be the SP 300 and SP-510 cordless pressure-sensitive styli.

The SP-300 has a much firmer feel than the SP-310, much as a 2H pencil relates to an HB. The SP 310 requires considerably less exertion to use, and is a better choice for most pressure-sensitive applications. If you are the type that regularly breaks pencil leads and can complete a form in triplicate without even trying, then perhaps the SP-300 is for you, but I preferred the softer SP-310. Figures 4(a) and 4(b) show the difference in the pressure-sensitivity of the two pens.



4(a) Created with the SP 310



4(b) Created with the SP 300

Is it Art yet?

During the writing of this article, I am happy to report that I tested several hardware and software components that, for the first time, allowed me complete freedom of artistic expression. In particular, the Wacom tablet and a program called Painter from Fractal Design Corp. proved to be a match made in heaven. Indeed, as *MacWeek* magazine put it, for $299, plus the price of a Wacom tablet ($611), Painter lets you emulate a $2 box of crayons and a 39-cent felt pen. And like *MacWeek*, I'd agree that that it's well worth it.

Of course, the program, which comes in the charming paint-can package shown in Figure 3, is capable of much more than my $2.39 examples. Painter has fairly hefty hardware demands, requiring a minimum of a Mac II or LC with 4MB of RAM and 32-bit QuickDraw. (A Windows version of Painter was announced at Comdex/Fall '91—*Ed.*) While not essential, a Wacom pressure-sensitive tablet is recommended.

Painter is essentially a "natural media" emulation, offering startlingly real simulations of colored pencils, crayons, calligraphy pens, airbrushes, markers and a variety of paint brushes for oils and water colors. The simulations are particularly uncanny when used with the Wacom tablet. With Painter, you can actually see the texture of brush strokes on canvas or a wide range of papers.

The program, written by the same people that created ColorStudio for Letraset, isn't perfect. It lacks several features typically found in paint programs, the most obvious being no support for text, and no editable selection areas or masks. Is it unreasonable that a paintbox doesn't contain a typewriter? No. Painter emulates natural media, and leaves the "extras" to other programs such as Photoshop and ColorStudio. Because Painter leaves out some of the more esoteric manipulative abilities of its peers, it is smaller, faster, easier to use, and relatively inexpensive—in all, a winning combination.

It is therefore ideal to use Painter in conjunction with Photoshop or ColorStudio to create masks or perform manipulations like flipping and rotating images. When saved, Photoshop and, naturally, ColorStudio files—complete with masks—can be opened in Painter. It also supports TIFF and PICT file-types.

Painter offers considerable customization of its tools. You can create additional paper, canvas and other backgrounds to supplant the heavy of supplied textures (although you'll need ColorStudio to do it), and each brush or pencil can be edited in dozens of ways. To keep the program easy to use, most of its 13 (!) tool palettes have additional hidden options that can be revealed when needed.

One of the most fascinating abilities of Painter is its AutoClone function, which allows you to turn a scanned image into a painting. There are even modes that emulate specific artists' styles. Apply "Seurat" to a photograph and voila, instant pointillism. There's a Van Gogh brush, too, that creates mule-colored brush strokes—just the thing for creating your own *Starry Night*.

As you can probably tell, I'm excited about Painter. It represents a new level of sophistication in graphics programs. If you are interested in drawing or painting (with or without a computer), you owe it to yourself to check it out.

Continued on page 76

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Fun With Photoshop

Photoshop is as close to the perfect art program as I've ever seen. It's fast (all things considered), easy to use, and has a great "feel." Since Oct. 1990, when I first reviewed version 1.0, Photoshop has become one of my most essential and often-used tools. The latest version, 2.0, adds important features for better printing and more precise color and image selection and manipulation. Rather than subject you to yet another boring summary of features, here are a few ways to have fun with Photoshop....

(Many of these techniques can also be applied to other graphics programs on various platforms, including the new photo-retouching program for Windows, Aldus PhotoStyler. See the Seybold Report, this issue for details.—*Ed.*)

Tip #1: Converting bitmaps into grayscales

For optimum use of any photo-retouching program, or printing graphics at different resolutions and/or sizes, it is important to have a true grayscale image, not one comprised of dithered dots. Even if the latter is all your scanner can produce, Photoshop can produce a grayscale image from a halftone by calculating gray values from the various dot densities. To do this, simply use your scanner to scan the photo at the highest resolution possible and save it in a format Photoshop can open (that covers just about everything). Open the image with Photoshop and check the Mode menu. If it informs you that the image is a bitmap, select the menu option entitled Grayscale. A dialog like the one shown in Figure 5 will appear, where you can enter the Bitmap to Grayscale size ratio. The larger the number you enter, the lower the resolution of the resulting image, but the greater the number of gray values it will contain. The number you enter will equal the number of grayscale "bits" that will comprise the image. For example, entering a 2 will produce a 2-bit (2 x 2, or 4 shades of gray) image; a 4-bit image contains 2 x 2 x 2 x 2, or 16 levels of gray.



Figure 5. By converting a bitmap to grayscale you can resize it without creating undesirable moiré patterns. To alter brightness or contrast, too, it is best to work with a grayscale image.

Tip #2: Masking & Feathering

One of the most important concepts in Photoshop is that of masking. Masks are created automatically whenever an area is selected. Another key concept is Feathering, which ensures that objects or areas that you paste down will blend smoothly into their backgrounds, without harsh, jaggy edges. Photoshop loses out to competing products ColorStudio and Enhance in the area of feathering. All can feather in an outward direction (away from the selection), but only Photoshop cannot feather inward.

Unlike ColorStudio, Photoshop has the ability to invert the selected area, making it easy to select an item or its background, if either one is a blank area or solid color. (ColorStudio has other methods of accomplishing this, but they are not as quick as Photoshop's Invert function.)

Tip #3: The Caricature

You've probably seen the work of artists who draw caricatures of people for five or ten dollars, or the satirical illustrations of political leaders in any newspaper's editorial page cartoons. Well, here's a way for you to create images like that yourself. Who knows, perhaps there is a business opportunity here!

The essence of any caricature is to emphasize dominant traits. Brian Mulroney, for example, has one heck of a chin in every cartoon you'll see of him, while Jean Chrétien will have an absurdly lapunded mouth. Prominent facial features get bigger; foreheads higher; hairdos more extreme. Noses are always a favorite.

You'll need to get a photograph of your subject into the computer. To do this, you could use a Polaroid camera and an inexpensive hand-held scanner, or a video digitizer, such as you've undoubtedly seen at the "Your face on a T-Shirt" booths at your local shopping mall or exhibition.

Assuming that you somehow get a grayscale image of your subject's face into Photoshop (see tip #1, above, on converting bitmaps into grayscales), it is simply a matter of selecting various areas of the image, distorting them in some way and pasting them back down again. Here are a few of my favorites:

Pinch produces a hilarious effect when applied to a person's face. Use one of the selection tools, with the subject's face centered in the selected area. Apply Pinch with a positive value to pinch inward (making facial features squish together around the center point), or with a negative value to expand features in a convex fashion (creating a fish-eye lens effect).

Other useful effects can be found in the Image menu's Distort and Scale effects, just the thing for making ears bigger and whatnot.

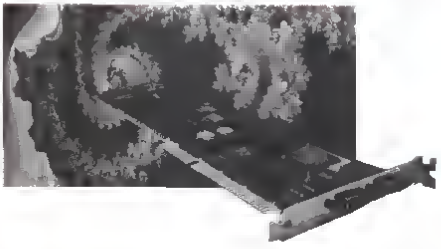
It is useful to manipulate a copy of an area rather than the original, that way, when you shrink or distort it, there is not a blank area left behind. Judicious use of feathering and smudging on selected areas can help hide signs of your manipulations!

See **Fun with Photoshop** *on page 85*

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REVIEW

Multi-Ad Creator

by Graeme Bennett

Product:
Multi-Ad Creator 2.5.3
Publisher: Multi-Ad Services Inc., 1720 West Detweiller Drive, Peoria Illinois 61615-1695 (309) 692 1530
Price $895

Imagine a cross between Adobe Illustrator Braderbund TypeStyler and Aldus PageMaker or Quark XPress and you'll have a pretty good idea of what Multi-Ad Creator is like. Originally designed by Multi-Ad Services (one of the world's largest production houses) for its own ad production, the program has gained considerable acclaim from graphic designers around the world for its adept handling of ad layouts.

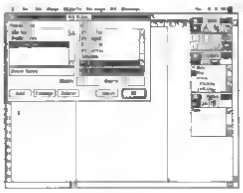


Figure 1: When **Creator** starts up, it presents the user with a list of common layout sizes. You can create custom sizes too. On the right are palettes containing a variety of tools and options similar to those found in PageMaker.

The designers of Creator obviously took a close look at exactly which features their customers needed. Take bursts, for example. Many ads contain information such as prices, important features, etc., in a starburst shape. These are an automatic feature of Creator, and can be round, square, symmetrical or random, with any number of points.

Most ad layouts contain prices, so the program contains a clever feature that automatically turns a group of numbers into the familiar big-dollars-and-small-cents look. A similar F-key handles fractions, automatically super-and-subscripting the components. (Both of these features are also available in Quark XPress via a free "Xtension" called Quark Freebies 1.0.)

Frames, too, are available (again, in a format familiar to XPress users), as are drawing tools. These allow for the creation of other graphical shapes, including circles, boxes, lines and standard or exotic headline text, and all may be shaded, rotated, stretched and otherwise manipulated using tools that will be instantly familiar to any Mac user familiar with some of the titles mentioned at the beginning of this article.



Figure 2: Creator's Paint Window allows the cutting, pasting and editing of bitmaps from within the program. Other tools allow the creation of vector graphic shapes.

Continued on page 84

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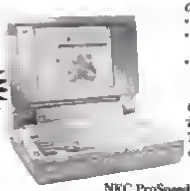
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SPOTLIGHT

An Interview with Aldus president Paul Brainerd

by Kirtan Singh Khalsa and Graeme Bennett

At the recent Seybold Publishing Conference, Aldus made one of the biggest splashes, with multiple announcements of a new suite of Windows products (PhotoStyler, FreeHand for Windows), upgrades to existing products (PageMaker 4.2, FreeHand 3.1 for Mac, and technology demonstrations of what Aldus president Paul Brainerd dubbed "Multimedia PageMaker."

Brainerd, who coined the term "desktop publishing," was in Vancouver recently, where *The Computer Paper* spoke to him. Here are his comments ...



On OS/2:

TCP: How successful has Aldus' OS/2 version of PageMaker been?

PB: IBM bought 5000 copies. Those were practically the only ones we sold.

On Multimedia:

PB: Aldus was one of three companies that were invited to participate in the QuickTime introduction. We showed a special version of Persuasion for the Mac that had a picture that, when you clicked on it, became a full-motion video clip.

Apple's done a beautiful job with QuickTime. It's as easy as placing a PICT on a page. QT takes care of all the compression, playback etc.

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On Aldus Additions:

PB Scitex announced at Print '91 new additions that allow PageMaker to work with their color equipment We've added a new menu item called Additions for both the PC and Mac versions of PageMaker Aldus additions (included in the upcoming version 4 2 of PageMaker) will add automatic functions our customers have asked for like drop caps and column balancing. We'll also be adding some scripting in the future.

On Upgrades:

PB We plan on a more agressive upgrade schedule It's been 12 to 16 months in the past now we're looking at 6 to 9 months between major releases with some "dot" releases (e.g., 4 0i was a minor revision only) more frequently than that.

On Educating the Market:

PB Aldus is hiring graphic arts professionals to keep in touch with the market and help service bureaus and prepress professionals. In addition, we have a series of white papers we call Straight Talk that have answers to questions comparisons to Quark and other information

On Future Aldus Products:

PB We've been out to a lot of corporate publishing groups where costs, in a newspaper environment, for example, can run as high as $6,000 per minute. These customers need database and network support they need data security, redundancy We are working on something for this market although not necessarily a shrink-wrapped product that will be in every store We're doing it by building on top of existing standards. I can't be terribly specific unless we have a non-disclosure agreement in place

On Document Interchange:

PB John Warnock (CEO of Adobe Systems) myself as well as Jonathon Seybold (Publisher of The Seybold Report on Desktop Publishing) have gone down a couple of blind alleys. Adobe obviously has an interest in having a document interchange standard based on PostScript. We're meeting monthly to see if we can work with PostScript as an interchange format for text graphics and document geometry in an editable format.

PIL (page interchange language), at this point, looks like a blind alley—perhaps a blind alley is a little bit strong; we're not pursuing it at this time Quark and others are still working on it. If something pans out, we can take another look at it later We're more interested in editable PostScript.

On Running a Quality Business:

PB Fully one-third of Aldus staff are in service and support.

Every employee has had at least 20 hours of training in the Crosby principles (Philip Crosby is a management consultant who has written a book entitled *Quality is Free.*—*Ed.*) and other issues. There are as many people testing as there are programming We're using automated test tools, a bug database Object-oriented programming techniques tend to lead to better quality code ❐

(See the Seybold Show Report, this issue for more information on the latest products from Aldus—*Ed.*)

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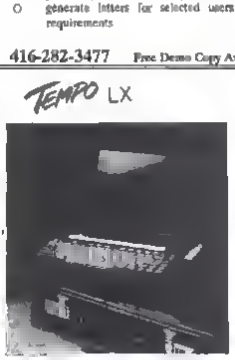
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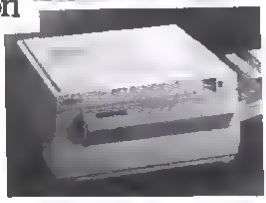


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REVIEW

Image Club's **Artroom CD-ROM**

by Graeme Bennett



Product: Artroom5.0
Publisher: Image Club Suite 5, 1902 Eleventh Street SE, Calgary Alberta T2G 3G2 (800-661-9410)
Price: $799

Billed as a "complete collection of clip art including special image retrieval software," Image Club's Artroom CD is indeed a formidable collection of art, ranging from A (airplanes, alphabets, animals, apples, arrows [aplenty!], asparagus, astrological symbols, angels, automobiles, American eagle, Alberta, Africa, Asia, Australia (etc.), art deco, atomic blasts, Avant Garde letters, and dozens more....) to Z (zapped, zebra, zipper and zoom). Thousands of images run the gamut from Axe Murderer (really!) to Goodie Two Shoes, and the illustrations are as varied as these two titles suggest.

All images are saved in a generic encapsulated PostScript (EPS) format, and may be used as is, or edited using programs such as Adobe Illustrator, Aldus FreeHand, Deneba Canvas, Adobe Illustrator for Windows, or CorelDRAW.

The complete collection consists of 25 volumes, each of which would normally sell for $99. All are included on the $799 CD. So, the value is excellent—how is the quality?

The Image Club Look

This collection has received several prestigious awards. *MacUser* "5 Mouse Rating," *MacWorld* "Recommended Clip Art," *Publish* "Reader's Choice: Best Clip Art." Despite these accolades, the quality varies widely. Of course, art is a matter of taste.

From a purely technical standpoint, the earlier volumes 1, 2 (miscellaneous), 4, 5 (cartoon people) and 6 (business and industry) are almost uniformly bad: drawn in the overly geometric and harshly shaded style that personified early Mac drawing programs like MacDraw 1.x and Cricket Draw; Volume 8 is barely passable, with a nearly even mixture of strong and weak designs.

Volume 9 (design elements) is very good, clearly, the artist(s) advanced to a more-powerful graphics program with the ability to do gradient fills—they are everywhere. Volume 9 includes a number of design elements like "Sale," "50% off," "Fantastic!" and the like, typically rendered

Continued on page 93

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ABOUT THE COVER

Techniques

by Graeme Bennett

This prototype of the cover had a see-through effect with clouds showing behind the CAD images on the screen.



This month's cover has an interesting story behind it. It started with the concept of a workstation being handed down from the heavens. After some discussion, that idea was thought to be potentially offensive to some people. Should the hand be male/female/alien? Another idea was hatched, in which a group of astronaut archaeologists uncover evidence of an advanced civilization—sort of an Erich von Daniken theme where the lunar walls would feature strange hieroglyphics like "LS," "NROFF" "CHMOD." Unfortunately, it seemed to imply "ancient and obsolete"—not the idea we wanted to put across!

In a variation of this scenario, the hard drive article was to be figured in as "the beast with six heads." We decided that UNIX deserved to be portrayed as a more down-to-earth "real-world" technology. Too bad! Perhaps a crystal ball with a workstation in it? Nah, too corny. We eventually decided on a horizon with a glowing "SUN," implying (we hope) a fairly obvious visual pun.

The main background cloud image on the cover was originally a black-and-white scan (really!) of a photo from Image Club's Darkroom CD-ROM. I colorized the image using Photoshop's "Arbitrary" color-mapping feature by selecting the sky, then assigning colors to specific ranges of gray. By inverting the selected area to select all but that area, I was able to perform similar coloration on the cloud portion of the image. The workstation was scanned as a separate image, sharpened, brightened and given a slight perspective angle, then selected, feathered, defringed and finally pasted onto the background.

Two of the images I had concocted for the unreleased "lunar" cover made it into the final image. The picture shown on the screen of the computer is constructed entirely from fractals. Fractals, as you may know, are mathematical oddities that create self-similar forms well-suited to the modelling of natural phenomena such as clouds and mountains. The fractals were generated on a Macintosh IIfx by the screen saver (!) More After Dark by Berkeley Systems captured with Zedcor's DeskCamera (the only snapshot utility I know of that can capture a screen saver screen), and assembled using Adobe Photoshop. I added the fade to the fractal sky manually and adjusted the colors using Photoshop's HUE, BRIGHTNESS and SATURATION commands.

The final image was saved as a 14.2MB TIFF file and placed into a FreeHand 3.0 publication, where the curved-up page corner, type (primarily Adobe Helvetica Extra Compressed) and logo elements were created and positioned. The files were saved onto a SyQuest (44MB removable disk) and transported to our service bureau (WYSIWYG, 604/684-5465). A Canon color laser proof was created before final film output of the color separations at 100 lpi was accomplished on a Linotronic L300. □

SPECIAL REPORT

The Seybold Publishing Conference

as reported by Newsbytes

The Seybold Computer Publishing Expedition is a show for professional users of publishing tools. Attended by 25,000 users, vendors, and developers of computer based systems, the conference was held from October 2-4 at the San Jose Convention Center, located in the heart of Silicon Valley. The show featured 260 exhibitors, plus a conference program highlighted by minicourses and interactive learning opportunities.

Apple Intros High-End LaserWriters, Monitor, Scanner

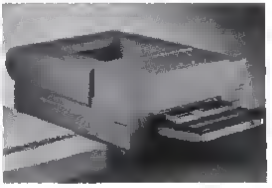
SAN JOSE, CALIFORNIA, SEP 30 (NB)—Apple Computer has rolled out a variety of new products aimed at desktop publishers, in conjunction with the Seybold desktop publishing show in San Jose. Apple introduced two high-end LaserWriter printers, a new 21-inch color monitor, version 1.1 of its MacTCP development platform, and a new scanner.

The new laser printers, available in November, are called the LaserWriter IIg, $4,599, and the LaserWriter IIf, $3,599. Both incorporate the Adobe Postscript Level 2 page description language which improves printing speed, adds new capabilities, and is said to be fully compatible with existing applications and drivers.

According to Apple, both printers offer built-in text smoothing, grayscale imaging, and high-speed networking. Because the new products feature the same design as previous LaserWriters, users of the LaserWriter IINT and IINTX can upgrade to either the IIg or IIf via a logic board exchange.

The new printers feature two new proprietary imaging technologies, called PhotoGrade and FinePrint. PhotoGrade enables the LaserWriter IIg or IIf to print grayscale images by controlling the size and placement of dots. FinePrint is edge-smoothing technology that improves the quality of text and line art. According to the company, it virtually eliminates the jagged edges characteristic of many laser-printed documents.

Although both FinePrint and PhotoGrade are standard on the



LaserWriter IIg: only FinePrint is standard on the LaserWriter IIf, with an additional 4 megabytes (MB) of RAM required to enable the PhotoGrade capability.

The LaserWriter IIg is based on the 25MHz Motorola 68030 processor and the IIf is based on a 20MHz version of the same chip. Both printers use the Canon LBP-SX eight-page-per-minute laser engine. Thirty-five type styles are included with the printers. A SCSI (Small Computer Systems Interface) port is built-in to allow users to connect an external hard disk for additional font storage. To facilitate multi-vendor connectivity the printers include a number of different networking options including EtherTalk, AppleTalk and a RS-232 Serial Interface.

The Macintosh 21-inch Color Display will be available in January in the U.S. and Canada although it is available now in Europe and Asia. The $4,599 monitor offers a viewing area the width of two full pages, up to 16.7 million colors, an ergonomic

Continued on page 82

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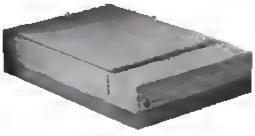
Continued from page 81

design, and according to the company, the ability to display any combination of text, graphics, and video applications. There's a pixel area of 1152 by 870 with a 26mm horizontal by .29mm vertical dot pitch. There's also a built-in tilt-and-swivel base, a built-in anti-glare, anti-static screen, and the unit features a 75-hertz refresh rate that, the company claims, ensures a flicker-free, stable image at all times.

The Macintosh 21-inch Color Display can be used with any member of the Macintosh II family equipped with a compatible video card.

The company's new Apple OneScanner, $1,299, features what Apple is calling "one-button" scanning technology, that allows for high-quality photographs and artwork to be incorporated into documents. It can scan images in up to eight bits or 256 levels of gray.

The scanner also includes the Ofoto and HyperScan 2.0 scanning options. Ofoto includes the one-button Autoscan feature that automatically controls all aspects of the scanning process from setting brightness and contrast to straightening and cropping images. Users can also manually control all aspects of scanning.



The HyperScan 2.0 software allows users to scan images directly into HyperCard stacks. The new version offers improvements in the use of palettes to simplify the user interface, and the ability to scan various size areas.

The Apple OneScanner is available now. Apple Scanner users will be able to upgrade to the new software for a suggested retail price of $195 through Light Source by calling 1-800-231-SCAN.

Contact: Yhonda Dave, Apple Computer Inc., 408-974-5193

New For Macintosh: Aldus PageMaker 4.2

SAN JOSE, CALIFORNIA, OCT 8 (NB)—In a slew of product announcements, Aldus has also unveiled a new version of its popular PageMaker for the Macintosh, version 4.2.

Aldus says the new version works with the Macintosh System 7.0 operating system, can be extended via the new Aldus Additions, and includes Aldus PrePrint 1.5.

The company says PageMaker 4.2 has over 40 new or improved features, and names enhanced typographic and precision controls as examples. The new product also supports System 7.0 features Apple Events, Subscribe, Balloon Help, and TrueType, Aldus said.

These new features allow users or developers to extend PageMaker features to meet special needs or to automate tasks. For example, Subscribe support allows users to connect a PageMaker document to files that other System 7.0 "savvy" programs publish, so PageMaker documents automatically reflect changes in the source documents, Aldus said. A new "hotlink" to Aldus freehand, via System 7's Apple Events, allows art to be seamlessly altered and updated from PageMaker, the company said.

Also, six new Aldus Additions come with PageMaker 4.2 for performing tasks such as producing drop caps automatically, preparing files for a "two-up" booklet printing, and rearranging a publication by moving thumbnail images of the pages, Aldus said.

PrePrint 1.5, a color production tool, is also included and allows users to color-correct and enhance TIFF images and generate color separations of multi-page documents, including text, illustrations and color photos.

PrePrint requires either PageMaker files or any PostScript file conforming to Adobe System's color-separation and document-structuring conventions. Documents can be color-separated on the desktop before incorporation into PageMaker as the product can create, recognize and print Desktop Color Separation (DCS) files.

Contact: Pam Miller, Aldus, Tel: 206/628-6594 Fax: 206/343-4240

Aldus: New PhotoStyler 1.1, FreeHand For Windows & Mac Upgrade

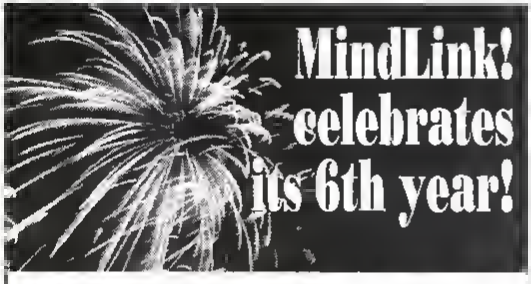
SEATTLE, WASHINGTON, OCT 8 (NB)—Aldus Corporation has announced an update to its FreeHand design and illustration program for the Mac and introduced a version for Windows. PhotoStyler 1.1 was also among Aldus' announcements at the Seybold Computer Publishing conference being held in San Jose, California this week.

Aldus says FreeHand version 3.1 for the Macintosh includes full support for Apple's System 7 operating system, as well as a new pressure-sensitive capability for the freehand drawing tool and improvements in element manipulation, import and export options, and printing.

Users will be able to take advantage of System 7 features, including Truetype fonts, Balloon Help, Publish and Subscribe, and 32-bit addressing of installed RAM. Publish and Subscribe support provides greater cross-application compatibility by maintaining links between files so that updates can be handled automatically when original files change.

The update also provides hot-links from PageMaker, so that users can open and edit FreeHand files from within PageMaker.

The pressure-sensitive mode provides the



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ability to create hand-drawn effects with the freehand tools. Using keyboard shortcuts or a Wacom pressure-sensitive drawing tablet and cordless pen, graphic artists can vary the line weights of strokes drawn with the freehand tool. The tablet and pen are sold separately.

Also supported is an magnification feature which allows the user to fill the screen with an enlarged view of any selected region of an image. FreeHand 3.1 has a suggested selling price of $595.

FreeHand for Windows will show a new user interface, graphics, and text capabilities. Larry Spelhaug, VP of marketing for Aldus, says the result is the most comprehensive design and illustration program available for PCs. The Windows version will have many of the same features found in the Mac 3.0 version, including floating palettes for tools, colors, styles, and layers. Users can display position and resize the palettes, and full screen drawing, editing and preview is available.

Layers can be hidden displayed, edited, and printed individually or together. Editable clip art is included, and drawing and editing tools include both basic tools such as pen, freehand, and point-to-point tools, as well as advanced features such as knife, skewing, tracing, rotation, and reflection tools.

PhotoStyler 1.1 is an enhanced version of the full-color image-processing program originally developed by U-Lead Systems Inc, of Taiwan.

Originally introduced in May of this year, PhotoStyler lets users of Microsoft Windows 3.0 scan, enhance, compose and retouch 24-bit color grayscale and black-and-white images, and print them. The enhanced images can be exported to desktop publishing, presentation graphics and multimedia applications, for use in electronically produced or printed products.

After Aldus acquired exclusive worldwide marketing rights to PhotoStyler, it withdrew it from the market while the enhancements were being added and it was being made compatible with other Aldus products, including PageMaker.

"We are delighted to relaunch the product with improvements that will make it the most advanced and productive image-processing solution for the Windows platform," said Spelhaug.

New features include improved file-format compatibility with PageMaker, improved performance of PhotoStyler's brush tools for image editing and the implementation of Aldus command-key routines to make PhotoStyler consistent with other Aldus products. The documentation has also been rewritten to make it consistent with standard company documentation formats.

PhotoStyler 1.1 will be available in the U.S. and Canada in the fourth quarter and carries a suggested list price of $795. European and Pacific Rim market versions will be announced later.

Registered owners of version 1.0 can get a free update. Aldus can be contacted at 206-628-2320 for further information.

Contact: Brad Stevens, Aldus Corporation 206-628-2361

Aldus Gets PageAhead Marketing Rights

SEATTLE, WASHINGTON, OCT 3 (NB)—Aldus Corporation has acquired the worldwide publishing and marketing rights to PageAhead, a program which bridges database management systems and Aldus PageMaker, its high-end desktop publishing program. PageAhead was originally developed by PageAhead Software Corporation in Seattle.

PageMaker users will be able to use the features of PageAhead to query, retrieve, and format data from dBASE and ASCII files, porting the information in documents produced with PageMaker. The combined programs offer a spreadsheet-like interface, the ability to combine data from multiple database tables, and calculated fields. A Query By Example feature is included to make data selection easy. A query table is used to retrieve the data, and an Answer Table previews the information selected. Once the user is satisfied with the result, a Word Table is used to format the chosen data and put it into the PageMaker publication.

Using the PageAhead features, data can be sorted in a variety of different orders, and exceptions to the sorting rules are possible.

PageMaker Database Edition requires Windows 3.0 as well as Windows compatible hardware. Aldus recommends a 386-based DOS compatible computer, 4 megabytes of RAM, an 80MB hard disk, a high resolution graphics adapter card such as an XGA, Super CGA or CGA, and a mouse. It's possible to run it on a 286-based system with 2MB of RAM, a 20MB hard disk, an EGA or Hercules graphics card and a mouse.

The company says it will package the program with PageMaker 4.0 for Windows, which will be available in the U.S. and Canada by the end of 1991, with a suggested list price of $995.

Aldus says users already owning PageMaker can buy PageAhead separately for $199.

The company says it is committed to updating major product lines every nine to 10 months.

Aldus believes that products such as PhotoStyler 1.1 for Windows will provide new applications for PCs which were previously available only on an Apple Macintosh.

Contact: Brad Stevens, Aldus Corp 206-628-2361



New For PC: FontMonger Windows Font Conversion Package

SAN FRANCISCO, CALIFORNIA, OCT 2 (NB)—Ares Software Corporation has announced FontManger for Microsoft Windows 3.0 or 3.1, a software package for the conversion of font files between the major font packages, and modification of fonts by the user.

FontManger converts font files to and from the PostScript Type 1, PostScript Type 3, TrueType, Ninebus and Intellifont font formats. The package exports in the Encapsulated PostScript (EPS) or Adobe Illustrator file formats for IBM PC or compatible systems, under DOS or Windows Metafile, or the Macintosh.

Fonts converted may be modified in graphics applications such as CorelDraw or Micrographix Designer, the company claims. Once modified the graphics and type can be combined and merged back into a font.

The company maintains that characters can be created for mathematical and scientific formulas, pricing and fractions. The retail price on the FontManger package is $99.

Contact: Russ McCann, Ares Software. Tel 415/578-9090 fax (415) 378-8999

OmniPage Goes Pro, System 7 Compatible

SAN JOSE, CALIFORNIA, OCT 3 (NB)—Caere, makers of the optical character recognition (OCR) software OmniPage, announced at the Seybold Conference that OmniPage Professional is now available for Macintosh and compatible computers, and it is able to take advantage of System 7 capabilities.

OmniPage is the first OCR software to be "System 7 savvy" and offers as a result complete gray-scale editing, a comprehensive text editor, support for Hewlett-Packard's AccuPage optical scanner, and provides direct input of text into Macintosh applications.

OmniPage can be trained Caere said, to recognize custom characters, shapes, or symbols. It can recognize all misprinted characters, the company said, and for example, can recognize misprinted t's that look like l s.

Documents can also be spell-checked on screen directly, just as in a word processor the company said.

Caere says UserLand Frontier, the first system-level scripting language for graphic personal computers also allows users to access OmniPage Professional from within other Macintosh applications, such as word processors, spreadsheets, databases, and electronic mail applications.

Retail price has been set at $995, Caere said, and the product is expected to be available in the fourth quarter of this year.

Contact: JoAnn Johnston, Regis McKenna Tel 415/354-4496 Fax 415/494-8660. Larry Miller, Caere Tel 408/395-7000 ❐

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Multi-Ad Creator *cont. from page 77*

If anything, this is Creator's greatest strength. Ad production people who are notoriously overworked anyway, don't want to learn another new-fangled program. Creator makes the transition as painless as possible, by offering a familiar set of tools, and all the conveniences of a page layout program with seamlessly integrated drawing tools. A HyperCard-based help system and an excellent ring-bound manual allow rapid access to information about various aspects of the program. Additionally, the company offers free technical support for one year to registered users.

Performance

Despite a review I had read that warned about Creator 1.0's sluggish performance, I found version 2.5.5's speed to be excellent—faster than FreeHand 2.x and on a par with Adobe Illustrator (generally acknowledged as a top performer in the Mac world). Unlike Illustrator, Creator can place TIFF images and it handles EPSF, RIFF, MacPaint and PICT-format clip art with ease.

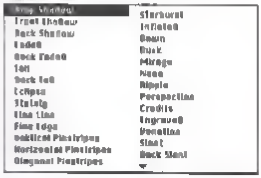


Figure 3. Shown are only a few of the vast array of EPS text effects provided with Creator. Options for gradient fills and automatic text-on-an-arc are also included. These are similar to those created by SmartArt, Laser FX or TypeStyler.

Of course, certain operations, such as those with fancy 3-D headlines are slow, but in all, its speed is impressive. I suspect that portions of Creator are written in pure assembly language for the fastest possible performance.

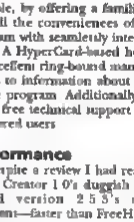


Figure 4. Some of Creator's most valuable utilities are shown here. The File/Font utilities option allows the substitution of one font for another. Although "ghosted out" in a new document (such as when this screen shot was taken), the Suggest Layout option causes Creator to suggest alternate layouts—useful in cases where a large block of text or several small or grouped elements exist. You can assign "importances" to objects so that Creator will favor them in its suggestions.

Another great feature is provided by Multi-Ad's separate Search utility (optional). You can type a keyword, such as "Dog," and Search will list all available clip art that is indexed with that keyword. Once found, images can be previewed, copied or printed. A simple operation (detailed in the News, Notes & Tips newsletter that Multi-Ad sends to registered owners) then transfers it directly into your current Creator document. Multi-user capabilities allow more than one user to search for images in the same catalog at the same time. There sort of industrial

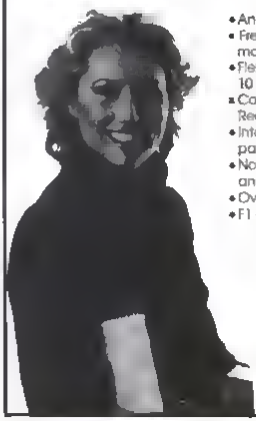
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The Future of Human-Computer Interfaces

A Review of *The Art of Human-Computer Interface Design*

By Cathalynn Labonté-Smith

(The Art of Human-Computer Interface Design, Brenda Laurel (Ed), Addison-Wesley Publishing Co., Inc. 1990 482 pages $34.95.)

The Art of Human-Computer Interface Design is a compilation of essays, lectures, speculations, and interviews from a variety of professionals in the sciences and humanities, who were called upon to address issues of design in graphical user interfaces (GUIs). Fifty percent of the writers (or those written about) were Apple, Inc. executives and 50% were from a non-Apple background, which made for some interesting controversy.

Generally, the authors explored the future of computer interfaces. For instance, Theodor Holm Nelson of Autodesk, Inc. in his article The Right Way to Think About Software Design suggests that GUIs have much further to go before they are compellingly interactive.

"To see tomorrow's computer systems, go to the video parlors! Go to the military flight simulators! Look there to see true responsiveness, true interaction.[1] (p. 235)

Nelson goes on to explain the mistakes of GUI designs that they are infected with "feaneisms" and "clutter" that the icons are vague "metaphorics" and that designers are merely "add[ing] ketchup" to poor designs.

The suggestion that human/computer interfaces should be as exciting as a session with a video game is also made by Ronald Baecker and Ian Small in their essay, Animation at the Interface, where they apply animation and film techniques to interface design.

"We should look to the language of cinema for models of how our interfaces could behave... the cut, the fade in (fade out), the dissolve, the wipe, the overlay, and the multiple exposure.[2] (p. 252)"

Gestures in Human-Computer Communication by Gordon Kurtenbach and Eric A. Hulteen, depicts the limits of computer interfaces today in that they are still a static tool.

"Without computers that can understand gestures, there can be no such thing as computer augmentation of dance, recognition of expression through movement, drawing in space, imaginary musical instruments or systems that allow users to conduct computer music. All of these activities must wait until a computer system is developed that recognizes that a two-year-old child understands.[3] (pp. 309-310)"

S. Joy Mountford's Tools and Techniques for Creative Design, suggests that inventions develop into art forms like the invention of the alphabet evolved into the art of literature, and that human-computer interface design will evolve into an art from the initial invention of the computer.

The book has such a broad range of approaches, that it would be fascinating for a non-technical audience, as much as it would be for a technical audience. For instance, there is the story of how the Macintosh trashcan icon was developed, and how Koko (a gorilla who can use American Sign Language) has a new computer with a touch screen designed so she can talk with humans, as well as some very hi tech-fi concepts like the products that are being developed by NASA for virtual interfaces. ❐

1 Theodor Holm Nelson. The Right Way to Think About Software Design. In The Art of Human-Computer Interface Design. Ed. Brenda Laurel. (Addison Wesley Publishing Co. Inc. 1990) pp. 235-243.

2 Ronald Baecker and Ian Small. Animation at the Interface. In The Art of Human-Computer Interface Design, Ed. Brenda Laurel. (Addison-Wesley Publishing Co., Inc. 1990) pp. 251-267.

3 Gordon Kurtenbash and Eric A. Hulteen. Gestures in Human-Computer Communication. In The Art of Human-Computer Interface Design. Ed. Brenda Laurel. (Addison-Wesley Publishing Co., Inc. 1990), pp. 309-317.

Cathalynn Labonté-Smith is a freelance computer journalist. You may reach her at ComputerSmiths 224-5242 fax 224-5247.

Multi-Ad Creator *cont. from page 64*

strength features are the sort of things that have made the Mac the preferred platform for commercial art departments and graphic design houses—features that just aren't available for PC-based graphics software.

Limitations

Because Creator is designed for creating advertisements, it is optimized for single-page layouts. It is, unfortunately, completely incapable of handling multi-page documents (except as separate files), as might be easily accomplished in most other page layout programs. This is more of a design philosophy than a flaw, but it clearly limits the breadth of the program's applications. Other than that, I found no problems with Creator, except a minor incompatibility with version 2.5 with System 7. A free upgrade to 2.5.3 (now shipping) solved the problem completely.

Creator is fast, easy to use, and seemingly bug-free. It is the sort of highly-specialized program that can save time and money in a production environment. By all means, contact the company and try out the free (save-disabled) demo version. That way, you can best determine if Creator is appropriate for you. If you make ads on a Mac (or by hand)...I'll bet that it is. ❐

Fun with Photoshop *cont. from page 76*



Figure 6 shows some of the absurd possibilities. (My apologies to Queen Elizabeth II.)

Tip #4: Creating better printouts

Ironically, the technique that often produces the best printouts on lower resolution printers (300-dpi and below) is virtually the reverse of the procedure outlined in tip #1. Here, we will convert a grayscale image into a bitmap, using the photoshop feature called Diffusion Dither. Generally you must lighten the image substantially (increase the brightness by 30 to 40%) before performing the conversion for optimum results. Then select Bitmap from the Mode menu and enter your target resolution (usually, this is the number of dots per inch of your printer). Figures 7(a) and 7(b) show a before-and-after 300-dpi printout.

Got any tips, tricks or questions about your favorite program(s) for DOS/Windows/Mac/Amiga/Atari/etc.? Send us a letter or E-mail (c/o *The Computer Paper* addresses or BBS numbers listed in the Masthead). We'll publish the best ones. Thanks!

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The Trouble with Non-Windows Applications

Upgrades, Modes & PIFs

by Cathalynn Lebonté-Smith

Is it better to run Windows applications under Windows, but if you really want to run your non-Windows applications under your new Windows 3.0 environment you may need some trouble-shooting tips.

If you are having troublet with non-Windows applicatsons running under Windows Program Manager, there are several solutions, listed from the easiest to the most involved.

#1 Obtain an upgrade of the program where available that was designed to run under Windows,

#2. Run the program in a different mode;

#3. Edit the Program Information Files (PIFs).

Upgrades

Popular non-Windows applications probably have a Windows 3.0 upgrade under development if they're not already shipping it.

Memory-resident programs may also need upgrades. Memory manager programs for non-Windows on 386 machines like Quarterdeck's QEMM and Qualitas 386 to the Max will not be compatible with the Windows memory manager without the upgrade version If you don t have the latest version of these programs it would be best to operate Windows without them.

Modes

When running non-Windows applications under Windows be aware that it runs under three different modes real mode , standard mode, and enhanced mode Real Mode is the best that an 8088 machine can operate which is not as good as Standard Mode that can operate on an 80286 computer To get the most out of Windows 3 0 you need a 386 or 386SX computer, that runs the Enhanced 386 Mode.

To see which mode you are running under pull down the Help Menu from the Program Manager, then select About Program Manager The About window will open up telling you which mode you are currently running as well as how much Free Memory and Free Extended Memory is available

There are two types of non-Windows programs, TSR and device drivers, and applications. The TSR and device drivers run before any of the other programs If you are having trouble with that type of program, it is best to run Windows in the lowest mode, real mode, which can be switched on uting win/r with the DOS prompt. If you ase having trouble with an application program, it is best to run Windows in the highest mode available on your machine, Enhanced Mode which can be switched on using win/3 with the DOS protapt.

Editing PIFs

PIFs tell Windows basic information about the non-Windows program. Windows programs do not use PIFs. Some non-Windows programs come with their own PIF, but most use the default PIF that Windows 3 0 astignt them PIFs can be changed through the PIF Editor in Windows 3.0 either globally, where the default for all non-Windows applications can be changed, or individually, where the default for just one program will be changed Settings that can be changed include Window Title, Optional Parameters, Start-up Directory, Video Mode (Text & Graphics/Multiple Text), Memory Requirements, Extended Memory (XMS Memory & EMS Memory), Reserve Shortcut Keys, and Multitasking

The most common problem when running a non-Windows application is an error message stating that there's insufficient memory Most non-Windows program are assigned 128KB, so to give a non-Windows program more memory try the following to increase the 128KB default setting.

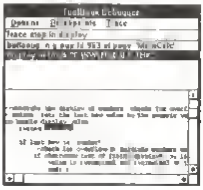
- From the Program Manager, pull down the Window menu to select the Accessories Group window and choose the PIF Editor icon
- Choose File Open A double-column window will give you the choice of Files and Directories.
- If a PIF is listed for the program you want to change i.e , word5 pif, then select that PIF More likely you will need to select _default pif.
- Increase the Memory Requirement KB required text box by 50KB

Continued on page 93

ToolBook 1.5

by Thomas Fee

Product ToolBook 1 5
Publisher Asymetrix 110 - 110th Avenue N.E. Suite 717 Bellevue Washington 98004 637-1500
Price not available at press time



The Computer Paper first reviewed Toolbook in the Dec. 1990 edition. At that time we concluded that the product (comparable in many ways to the Mac's HyperCard) offered "a very attractive environment" and that it provided the programmer with "tools to create outstanding hypertext applications within a rapidly growing user interface (Windows 3.0) ' We also noted that it was S-L-O-W

Now, Asymetrix has released an updated version with a number of improvements not the least of which is claimed to be better performance—*Ed.*

Market Orientation

ToolBook is a development system to create Windows applications ranging from the straightforward to the really sophisticated kind It supplies visual layout capabilities and a proprietary programming language called OpenScript.

Continued on page 87

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I was pleased with how many very useful functions are included especially for text operations and printing controls. The Dynamic Data Exchange functions are well thought out and complete. They are elegant, flexible, and easy to use.

Asymetrix passes off OpenScript as object-oriented but in fact, it does not support key OO capabilities: data abstraction and inheritance. Though it appears to do so, it does not support encapsulation either.

It does have a weak form of polymorphism incomplete because it does not extend to operators, and compromised in a curious way: the message receiver's type must be specified in the send statement. As an example, assume you have a textbox named "Canard." You would insert "Rita" into it with this statement: put "Rita" into text of field "Canard." Here put "Rita" is the message and Canard is the receiver. The message is polymorphic because you can send it to other receivers. Unfortunately, you have to specify in advance the receiver's type, in this example: text of field. This is ironic because the manual says that OpenScript is typeless.

To its credit, OpenScript supports late binding and thereby provides a true messaging system. Even more powerfully, it supports run-time code interpretation. Your program can execute instruction entered or made up at run-time. This facility could be useful for building applications where expression evaluation is needed, e.g. a specialized spread-sheet. It could also be used to get around some of the difficulties mentioned earlier.

A Concept Language

Compared with modern programming languages, OpenScript is wordy and inelegant and is clearly a big step backwards. It provides a private vocabulary in respect to standard programming notions, e.g., a Windows application is a book. To ToolBook's credit, it does support that metaphor in a rich way, making it easy, for example, to flip pages and change backgrounds. ToolBook's forte seems to be in the area of intensively graphical books painstakingly handcrafted. One strength, for example, is the marquee select and grouping capability which allows you to have multiple group-specific scripts leading to a high degree of control in partitioning functions within a complex of elements.

From Here to There

One notable strength of ToolBook is the ease with which you can persist values associated with objects. You can easily have all or most of your variables persistent so that the user can stop running your program and sometime later resume it in the same state.

Without getting into too much detail, I would say that the ToolBook tutorial does not address the issues of teaching you how to create an application. I found it necessary to read major sections of the 2-volume docs. Though visual design is pretty easy, programming is needed to make it perform useful work. There is an immediate command window which you can use for direct entry of statements to be executed and that can help a little in the learning process.

The language reference is a little weak on cross-references. For example, the createFile entry in their language reference does not mention a related command openFile. On the plus side, the prose is consistently easy to read and balanced with illustrations and examples. On the minus side, it is far too wordy. This percolates up into the overall organization and is reflected in the table of contents. On p. 1/124, the title asks, "How do I build a book?" As section headings, rhetorical questions are ineffective. Worse, this one is not answered directly. Upon reaching the end of the chapter you may not remember that there was a question posed near the front, and in that sense, it never gets answered.

The Help system is weak but it can do a full-text search. Speed is a real problem, though. It is incomplete (OpenScript commands are not explained) and is clearly targeted only at the naive. Plan on spending 40 hours of study to learn the system.

ToolBook is, unfortunately, suitable only for small progamming tasks. It is very difficult to get your program into a text file and back again. Even without this difficulty the syntax, because it is not object-oriented, has nothing to let you associate a method with an object type. This makes it very inadvisable to try to program outside the ToolBook environment even though tunnelvision is assured otherwise. This problem is not restricted to ToolBook but it is particularly bad here because you can only have one script window open at a time.

The Issue of Complexity Control

Overall, developing with ToolBook is not fun. The user interface does not have a very smooth feel. For example, to bring up the script window you must hold down the control key and then double-click on an object, which is absurd. Why not just double-click? Certain mouse and keyboard combinations which are complementary are unfriendly to those who hold the mouse with their left hand.

The built-in script editor is very anemic, as are most Windows editors although the word search function is much better packaged than those in other products. The mouse is seriously under-utilized in terms of bringing up various dialog boxes and windows.

Interestingly, you can change and extend the development system itself by attaching your custom menu items to the standard ones. Thus, you can have some work automated and you may even be able to compensate for some of ToolBook's weaknesses but it would take a lot of work. Asymetrix has not really developed this area and it is limited in power.

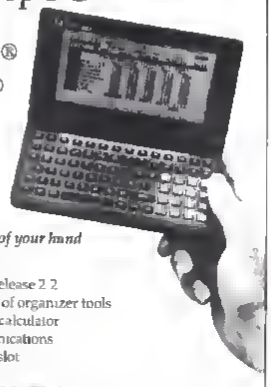
Writer's Block

If you want to distribute books to others, you will need to buy the Author Resource Kit, which will cost you US$450. Windows 3.0 came with a ToolBook run-time which is now obsoleted with ToolBook 1.5. Asking how I would deal with that if I didn't want to go with the ARK, Asymetrix tells me only to wait for Comdex. OK, I'll wait. ☐

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"Open" Systems: WHAT ARE THEY?

by
Scott McNealy
President and CEO
Sun Microsystems, Inc.
Mountain View, CA

In recent years, most companies that built their fortunes on single-vendor proprietary computing strategies have jumped on the open systems bandwagon. And why not? They've heard the market. Customers are voting for open systems with their wallets. In droves. They don't want to be locked into the fortunes of one computing architecture or company.

But while the demand for "open systems" is clear, the meaning of the term isn't — at least not anymore. Most proprietary companies singing the "open systems" theme song these days sound suspiciously like they're crooning "My Way" in the background. How truly open are their "open systems?" How committed will they be to open systems in the long run if those systems are stealing sales from their proprietary lines? Or if adopting open systems means giving up control of a lucrative product?

What It Takes to be Open

"Open" is the most used and abused word in computing today. It's become an all-purpose marketing buzzword to sprinkle liberally on virtually any product or strategy. It should be placed on the Endangered Jargon list. Some common misuses include:

"My computer architecture is open because I can network to and get files from the mainframe." This confuses interoperability and portability with openness.

"My computer is open because it uses UNIX." This confuses ease of software portability with openness and doesn't even begin to cover all the other hardware and software interfaces developed by a vendor.

"My PC is open because it runs binary-compatible software from one PC vendor to another." This confuses openness with compatibility — and compatibility with logos. A PC clone is still an Intel/Microsoft computer no matter what distribution channel you buy it from or what logo you put on it.

"My computer complies with standards because it conforms with the XYZ consortium." This confuses openness with press releases. More on this later.

Like many other vendors, Sun is committed to all the criteria listed above. But these are not casual relationships — you can't add up heterogeneity, binary compatibility, UNIX etc. and have the total equal "open." They are not the same thing.

"Open" is a term worth saving, though. It says a lot about the way computer companies can and should compete, and about the value provided customers through innovation. The theory behind openness is that all technology can benefit from improvement and that all customers benefit from such innovation. Ultimately, the industry benefits, too, as a result of increased demand brought about by more useful products. Basically, openness is a simple concept. It refers to a specification, a blueprint — or as we call it in the computer business, an interface. One that's written down for the world to see and use. It invites improvement and innovation.

The brake pedal is, for example, an open interface in the automobile industry. Every car company knows the description of a brake pedal: it's the three by six-inch pedal located directly to the left of the accelerator that can halt the car when it's depressed with x foot-pounds of pressure. Car companies don't pay royalties to one another to use the specification; drivers are comfortable with it because they know the brake pedal is always located in the same place.

The brake pedal specification is a volume open interface. And the automakers implement and innovate on the brake pedal's open interface with competitive products like anti-lock braking systems, hydraulic brakes, disk brakes, etc. Innovative implementations — even of things as mundane as braking systems — enable car manufacturers to differentiate themselves. Having these open interfaces lets automakers improve upon and innovate while still complying with the open interface. And customers don't have to relearn how to drive.

In the computer industry, interfaces describe many of the important elements that tie a computer system together: the microprocessor architecture, the system bus, the operating system and window systems, the graphical user interface, networking and others like the important ABIs (Application Binary Interfaces) and APIs (Application Programming Interfaces).

The fundamental premise in defining openness is a positive answer to a simple question. "Can this technology benefit from innovation, from being faster, more full-function and cheaper?" If you believe the answer is yes, then we can apply the

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question to an actual case — like Microsoft's Windows. Could Windows improve through innovation? Everything I've heard in the market says so. But while Microsoft gives developers the information to create applications that run with Windows, the company does not provide the information to innovate on Windows itself. As a result, Windows is a proprietary (not open) interface.

Here's a simple checklist of criteria for openness:

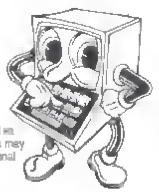
1) The interface must have a specification that's openly available, meaning, published. This allows other vendors to create their own, value-added implementations. By contrast, most vendors release implementations — such as Windows — without making the specifications available. There's a difference between being able to develop applications for the Windows environment and being able to innovate and improve upon Windows itself.
2) The specification should be well-written. You should be able to send four — or four hundred — engineers into a room with a good interface specification and have them come out with a reasonable implementation. That is important. Well-written specifications encourage the creation of multiple, compatible implementations, a.k.a. competitive products.
3) An open interface is available inexpensively or free. No huge royalties. Lots of innovation.
4) The interface should be legally clean, i.e. you can't be sued for using it. Who wants to build a product line around a hardware or software interface that will make only lawyers rich?
5) Multiple implementations of the interface should be available from multiple companies. Firms that really embrace open interfaces endorse the value of competition. Rarely will there be just one of anything.
6) There should be a reference implementation available for a reasonable fee. Seeing how the interface is actually implemented is important to people who are building their own implementations. It's easier to build a car if you've seen one.
7) And, finally, there is — best case — an independent organization that performs branding and compatibility testing to ensure the specification is protected and enhanced in an equitable way.

Lots of vendors equate open systems with standards. They're not the same thing. The dictionary definition states that a standard is "regularly or widely used ... the preferred way of doing things." Standard interfaces are set by high-volume sales (in other words, by users). This means that the Macintosh is a standard (high-volume) but not open (no published interface). Of course, Sun's philosophy is that a robust open interface will be adopted by many vendors and users, eventually achieving the volume to become a standard.

Because standards are set by volume sales, it's illogical that standards can be set by committee. It's also illogical to call organizations like UNIX International, OSF and IEEE "standards committees." They are endorsement bodies and such bodies don't set standards. In theory, if enough companies joined a committee and swore to adopt a given set of technologies, then it's possible that their combined volume could drive standards. Practice proves differently, however. Not only have such companies been unable to predict their sales, they can't even predict their ability to follow through and commit to the consortia initiatives. Consortia have succeeded in creating customer doubt and paralysing innovation.

Continued on page 95

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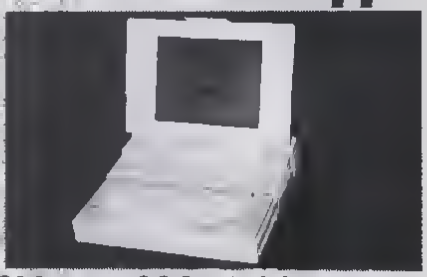
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USER GROUPS

AMIGA USER GROUP (ReNorAmA) BCIT, Rm 129-1A, Gen Meeting 2nd Wed 7:30; Programmers 4th Wed 7:30, 689 Wagstaff, 597-1748
APPLES B.C. COMPUTER SOCIETY A User Group for Macintosh, Apple II's and Lisas
Macintosh meetings are the last Tuesday in each month at the Unitarian Church in Vancouver. Novice meetings and special interest meetings are held mid-month. Call Seth Gibson 261-8862 for information. Apple II meetings first Monday of each month. Call Al Crout 521 8618 or Kiyoshi Masuda 437 9935 for information
ARCHITECT USER GROUP (MacIntosh) Call Glen Schiller or Kal Gill, Hyte Computers, 736-3181
ASTUTE—ATARI ST Meets 1st Tues. 7:30 Hastings Comm Ctr. Dennis 420-9718.
ATARI USERS! Vantari P.O Box 3614 Main Post Office Van., B.C. V6B 3Y8 Bill Sutherland 988-1450, Don Hatch 433-9055 Meets 2nd Wed. 7:30 Hastings Comm Ctr., 3096 E. Hastings.
BEAVER VALLEY COMMODORE CLUB 1st Tues Mariamee School Library Call John Vink 387-8426.
B.C. INTERGRAPH USERS GROUP (BCIUG) Quarterly Meeting. B.C. Hydro Auditorium, 970 Burrard St. Vancouver. December 3, 1991 8:30-5:00 p.m. Contact Mike Barnes @ 665-3662 for information.
B.C. REGIONAL USERS GROUP SOCIETY at Hewlett-Packard Users Contact Randy Cliff for information 987-8048
B.C. UNIX USERS GROUP Dinner Meetings. 681-4473
CHILLIWACK COMMODORE COMPUTER CLUB (C.C.C.C.)—979 Supporting Commodore Amiga P.O. Box 413, Sardis, B.C. V2R 1A7
DATA PROCESSING MANAGEMENT ASSOCIATION DPMA dinner meetings 4th Tuesday every month Stanley Park Pavilion. Next meeting November 26th @6:30 p.m. PETER WATSON of Themes International will be discussing Job Fit and Productivity. Contact Frances Dickson or Suzella Havens — 980-8808 to register or Gail Nimis — 580-9633 for information.
DESKTOP PUBLISHING USER GROUP — bi-monthly meetings. For information call Karole Doner 929-4916.
FORTH-BC meets 7:30, 1st Thurs/month Rm 1A-324, BCIT main bldg. Discussions, demonstrations and information for programming/applying FORTH (hardware and software).
GREATER VICTORIA PERSONAL COMPUTER USERS' ASSOC PO Box 5309 Station B Victoria, V8R 6S4 General meeting last Wed. Also special interest group meetings 382-3934
INDEPENDENT COMPUTER CONSULTANTS ASSOCIATION Box 820 Station A, Van., B.C. 682-2747. Fax 925-1338.
KAYPRO USER GROUP/VANCOUVER PORTABLE COMPUTER CLUB, 3rd Mon. at Kwantlen College Richmond (DOS & CP/M) 271 1819.
LABORATORY PC USER GROUP Rm 2J38 BC Children's Hospital Vancouver 7:00 pm every 2nd Wed (except July & August) - $10/year 266-7999
MACWEST COMPUTER SOCIETY 2 monthly meetings for members plus PD copy session. General Meetings 2nd Wed. Contact: Phil Best 856-4274 or Edmund Helah 583-5799. 7:30 pm. MacWest New User Meeting 3rd Wed., 7:30 pm. Guildford Pub Ltd. Surrey PD Copy sessions & most New User Group Computer User Group 2nd Tues of every month, M.R. Sr Secondary 7:30.
USER GROUP 382-6188 POCO, 1378 Laurier Hyde Creek Centre
ORACLE USERS GROUP, 1055 W. Hastings 275-6902 Lawrence Clark— every 3rd Wed of each mth. month
PACIFIC INFORMATION EXCHANGE P.O. Box 67306 Station O Vancouver V6W 3T1
PORT COQ COMPUTER CLUB—Commodore, Amiga & IBM 1st & 3rd Tues 7:30 Rm 10a, George Pearkes Jr. Sec. School, 1300 Laurier Ave Port Coquitlam. Mike Evans 942-4286
SMART USER GROUP. Brian Wiebe 538-8065
SOFTWARE B.C. #400-1190 Melville St. Van. B.C. 684-7432. Meetings at Benedict's Restaurant, 1177 W Pender St. Vancouver, 3rd Thurs @ 30
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TRACE (Richmond Atari Club) Thompson Comm Ctre 272-5789 1st & 3rd Mon. 7:30-9:30
VANCOUVER ACM/SIGGRAPH Computer Graphics 1st Wed Call Susan Mair 228-3068.
VANCOUVER ACCPAC USERS GROUP 3rd Tues Stanley Park Pavilion For info phone or fax 325-0959
VANCOUVER AUTOCAD USERS SOCIETY BCIT, Bldg 3A, Room 110 1st Wed of the month 7:30 pm Contact Robert Cheek, 684-9611 for info
VANCOUVER CLIPPER DEVELOPERS ASSOC 1st Tues. 7 pm 800-1190 Hornby St. Van 685-5545
VANCOUVER COLOR COMPUTER CLUB 3rd Tuesday 7:30 PM Century House—Moody Park Recreation Centre 620-9th St. New Westminster Contacts: Jordan Ostrikin 420-6081 Steven La Favor 467-0923.
VANCOUVER DBASE USERS GROUP 2nd Wed, 7 pm 800-1190 Hornby St Van. 685-5545
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VANCOUVER NETWARE USERS GROUP Les Lehbrant 275-9584. Meet 1st Mon.
VANCOUVER NeXT USERS SOCIETY (VNUS) last Wed 7 pm at Science World Lawrence Clark 275-6902.
VANCOUVER PORTABLE COMPUTER CLUB (VPCC) AMO 17 Jay Siegel 4261 Lancelot Dr. Richmond, B.C. V7C 4S4 271 1819
VANCOUVER PC USERS SOCIETY Science World Auditorium, 6:30 pm 2nd Thurs $30/yr 734-0060.
VAN. SINCLAIR USERS GROUP Timex-Sinclair 2nd Fri, Killarney Comm. Ctr. Gerd Brauning 931-5609
VANTARI Box 3614 Main Post Office Van., BC V6B 3Y6, Judy Harcus 873-1941 Don Hatch 433-9055 2nd Wed.- Hastings Comm Ctr., 3096 E. Hastings
VERSACAD USER GROUP 2nd Tues Call CADD Solutions Inc., 681-4686 for info.
WANG SYSTEM USERS, Karen Turner 548-7902.

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WINDOWS

Windows PIFs *cont. from page 56*

- Save the file with the directory and program name required with the extension PIF
- Increase the Memory Requirement by 50KB at a time until the program will run without an error message or crashing.

If you have tried to edit the PIFs and are still not successful, go back to solution #1. Get in touch with the software developer and see if there is an upgrade available for the program. But if there is no upgrade available for the program, here is another alternative

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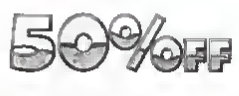
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Image Club *cont. from page 80*



Volume 9 Design Elements



Volume 10 A Mac Plus from "Office & Entertainment."

in a pseudo-metallic look, or other 3-D variation.

Volumes 10 and 11 contain renditions of Image Club's earliest fonts, which range from useful headline fonts (there are about twenty good ones) to totally hideous creations (another twenty or so) that might be useful where a completely unprofessional look is, uh, desirable. All judgement as to these artistic merits aside, most of these fonts aren't technically constructed very well.

Volume 12, "Headings, Mortices and Symbols" contains a lot of headings constructed from the aforementioned fonts, as well as a collection of arrows and boxes, most of which are reasonably useful if not inspiring.

Volume 13, "Food and Entertainment" contains mostly nice work, as does volume 14, "For Occasions," with its holiday themes. Volume 15, "Lifestyles" also has the same "look" as those already mentioned—cartoon-like, but useable.

Volume 16 "Office & Education," however, contains some great work, especially in its finely-rendered versions of computers and office items. As is typical of many art collections created on a Mac, the computer collection is lopsided in favor of Macs, LaserWriters and NeXT cubes, with very few PC products depicted.

Volume 17 "Universal Symbols" consists of a huge variety of icons (i.e., no smoking, washroom and traffic symbols, etc.) in the usual simplified silhouette formats. The collection is extensive, with animals, (still more) arrows, astrology and astrology, geology, handforms, international mechanical, meteorology, photography, shapes, sports and recreation, and traffic control symbols. All are drawn well.

Volume 18 "Celebrity Caricatures," is drawn in the same cartoonish style that typifies the "Image Club Look." The cartoons range from newspaper quality (many of the illustrations look they were patterned after Vancouver Sun cartoonist Roy Peterson's work), to downright obnoxious (Dolly Parton, Madonna).

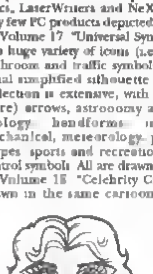
Volume 18 is a large selection of well-drawn silhouettes of people in everyday work and sports situations.

Volume 20 is a departure, offering dozens of extremely nice background patterns (leaves, mountains, stars, grids and other more wallpaper-like designs), such as you might see behind an advertisement or as the background for a poster. Good stuff.

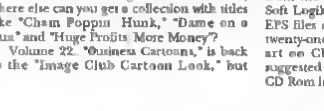
Volume 21 is definitely my favorite—a collection of completely "retro" fifties designs, featuring the absurd optimism that permeated American culture at that time. Completely stereotypical cartoon drawings just perfect for satirical posters and propaganda materials.

Anyone who recognizes good old millin' Bob (Church of the Subgenius) Bobbs will want this CD for these gems alone. I mean, where else can you get a collection with titles like "Cham Poppin' Hunk," "Dame on a Gun" and "Huge Profits More Money"?

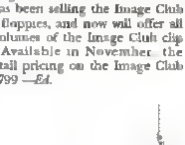
Volume 22, "Business Cartoons," is back to the "Image Club Cartoon Look," but these are much better than the earlier entries. Volume 23, "Borders & Ornaments," is excellent, with plenty of great old-fashioned ornate page borders and ornaments. Very very nice, and a splendid way to end the collection. In all volumes 16 and higher are great, and the earlier ones are not as great. The collection comes with a well-indexed catalog, with illustrations of each disk as well as a user's manual for the clip art retrieval software entitled "the Image Retriever," (which is not required for accessing or using the clip art, incidentally). I can safely recommend this collection, even if you don't like some—or even most—of it. There is sure to be plenty left over that you or your clients will like. ❐



Madonna from Volume 18



"Road Scare," one of the goodies from Volume 21



"Ornate Floral," one of many complex and beautiful borders on Volume 23

Late-breaking News

At the Seybold Computer Publishing Exposition Soft Logik Corp. (314/894-8608) announced that they are now preparing CD-ROMs for the Atari market. The first CD is to feature the EPS clip art from the Image Club Artroom collection. Soft Logik has been selling the Image Club EPS files on floppies, and now will offer all twenty-one volumes of the Image Club clip art on CD. Available in November, the suggested retail pricing on the Image Club CD Rom is $799. —*Ed.*

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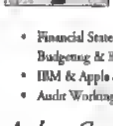
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SPOTLIGHT

Continued from page 91

What really matters in the end is the customer's vote via purchase order

Open Systems Lead to Innovation

Open interfaces can be used by more than one vendor; multiple implementations are encouraged. We're talking freedom OF choice here, not freedom FROM choice. It's a scary notion to many companies in the computer business — that's why they try so hard to obfuscate the facts.

Unfortunately for users, the concept of open interfaces doesn't characterize much of today's market. With most hardware and software interfaces one company is essentially in control of its own proprietary product, thus limiting innovation. Imagine if DOS had been put into the public domain. We'd have realtime DOS, multi-tasking DOS, multi-threaded DOS or DOS with X Windows on top of it. System vendors could pick the implementation, price and time to market they needed.

Controlled Economies vs. Competition

Open systems is the riskiest strategy for a vendor who doesn't excel at innovation and execution. If customers have more than a single source of supply they will base their buying decision on the product that gives them the best performance, value, customer support and other important aspects. "Security through obscurity" is out the window.

True open systems offer so much for end users that the future is clear: in a few short years, closed interfaces will be forgotten relics from a very interesting past. □

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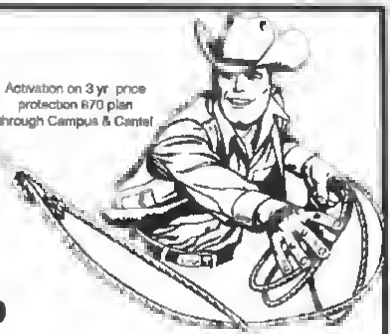
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11	$13,168.00	$14,328.00	35	$37,818.00	$41,748.00
12	$16,528.00	$17,788.00	36	$38,838.00	$42,808.00
13	$17,458.00	$18,868.00	37	$39,768.00	$43,848.00
14	$18,388.00	$19,828.00	38	$40,708.00	$44,888.00
15	$19,318.00	$20,958.00	39	$41,638.00	$45,908.00
16	$20,248.00	$22,098.00	40	$42,568.00	$46,968.00
17	$21,178.00	$23,048.00	41	$43,498.00	$48,008.00
18	$22,108.00	$24,088.00	42	$44,428.00	$48,048.00
19	$23,038.00	$25,128.00	43	$46,358.00	$50,088.00
20	$23,968.00	$26,158.00	44	$46,288.00	$51,128.00
21	$24,898.00	$27,208.00	45	$47,218.00	$52,168.00
22	$25,828.00	$28,248.00	46	$48,148.00	$53,208.00
23	$26,758.00	$29,288.00	47	$49,078.00	$54,248.00
24	$27,688.00	$30,328.00	48	$50,008.00	$55,228.00
25	$28,618.00	$31,368.00	49	$50,938.00	$56,328.00
26	$29,548.00	$32,408.00	50	$51,868.00	$57,368.00

FILE SERVER CONFIGURATION: Multiform MT386-25DX 0 W.S., 4MB, 1.2MB Floppy, 80MB 19ms Harddisk, Monochrome Display, Enhanced Keyboard, 2 Parallel, 0 1 Serial Ports, Arcnet Card. Novell Network Operating System, File Servers under 10 users are installed as NON-DEDICATED file servers.

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SEE OUR SYSTEMS AD PAGE4

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Letters

Continued from page 10

speaking here as a software developer of business solutions. I sympathize with those who can't justify throwing out their DOS and Windows applications in order to run a superior operating system. What I am saying is that it's not a simple OS/2 versus Windows issue.

With respect to OS/3 or Win32/NT, or whatever it's being called today, even Microsoft has pointed out that this yet to be demonstrated environment is targeted at the high end RISC workstation and 486 33 mhz market. They further add that 8 megabytes will be the minimum memory required. As for delivery, given Microsoft's track record, I would indeed be surprised to see this in second quarter '92, fully debugged and operational. Why would I the developer and any other serious OS/2 user, want to drop what's available now for some future intangible, which may or may not ever be delivered.

I've seen OS/2 2.0 running Winapps and I've seen the new 2.0 workplace shell that gives OS/2 Mac-like object oriented capabilities. I'm more excited now about OS/2 than I've ever been. My hope is that 2.0 will allow users with DOS and Windows investments to finally discover for themselves what the fuss is really all about. I think this is what is really worrying Steve Ballmer of Microsoft.

Yours truly,
Claude Biron
Systems Analyst, BC Telephone Company

We share your enthusiasm for OS/2 2.0, and the advanced technology it represents. However, as the features on workstations and Unix point out, people buy applications, not operating systems. We suspect that users will realize Windows' inadequacies in the areas you mentioned just about the time that Microsoft's marketing machine tells them to.

This issue's feature articles, we hope, serve to illustrate how when the going gets tough, the tough get workstations. As we start pumping ever-larger amounts of data through our machines, we begin to see the areas where PCs, Macs, etc., don't measure up. Some users might never need the power of a workstation, but it's nice to know what's available—and why.

As for what Mr. Ballmer's been practising, we were going to say the same thing on page 54 of our last issue. Did anyone else notice?

WORKSTATIONS

Continued from page 53

Not For Everyone

While a UNIX workstation is not suitable for every occupation, the tough part is deciding whether one is right for your job. There is also the question of software compatibility. Most of us have some favourite DOS application we can't live without, but that's not a problem. There is a DOS emulator for every workstation sold, so you don't have to leave your favourites behind.

In a business situation, the power of a workstation can be used to quickly visualize a lot of numerical data. From this point, comparisons can be made and various "what if" scenarios can be experimented with in a short period of time. The ability to collate data from several different sources and present it in a meaningful fashion makes the workstation a powerful decision making tool.

Besides, with workstations becoming more personal (I.e., cheaper) and some more "shrink-wrap" software appearing on the shelves, maybe your own personal workstation is not too far out of the question, after all. ❐

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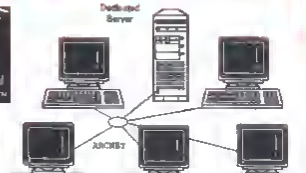
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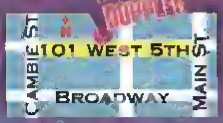
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